MANCHESTER DOCKS USES DIESEL-ELECTRIC LOCOMOTIVES

See Page 3

MODERN TRANSPORT

"THE TIMES" OF THE TRANSPORT WORLD

OUTSTANDING PERFORMANCE OF REAR-ENGINED BUS ON TEST

See Page 5

VOL. LXXXII No. 2110 [*Registered at the G.P.O. as a newspaper*] LONDON, OCTOBER 24, 1959 PRICE NINEPENCE

CURRENT TOPICS

Transport in the New Government

THE Ministerial changes announced for the new Parliament have been greeted by the Press with unusual enthusiasm. The individuals principally concerned did well in the last administration and no doubt deserve their promotion. This enthusiasm has also extended to praise of the separation of civil aviation from transport; the breaking up of the Ministry of Transport and Civil Aviation has been canvassed for some time in the Conservative Party. The wisdom of the move must nevertheless be open to question. In the belief that civil aviation is as much transport as that by land and sea we of this newspaper have refrained as often as possible from using the full title of the Ministry. "Ministry of Transport" should surely have covered its recent activities. As a result of this retrograde step by the new Government, the lot of the national air corporations may be unhappy, for the new Ministry is to take over Ministry of Supply functions in respect of civil aircraft design and supply. There is merit in keeping those parts of the administrative machine dealing with transport operation separate from those concerned with manufacture. If our aviation operations, especially overseas, are to be competitive and successful, the corporations must be free to order the aircraft they consider most suitable for their services; they deserve the backing of an operating Ministry to support them against the Ministry responsible for manufacture, the actions of which are likely to be coloured by military requirements. Perhaps under the guidance of Mr. Duncan Sandys, who brought striking initiative and energy into the Ministry of Defence, the evils will be avoided and the aviation manufacturing industry will receive much needed fresh impetus without causing harm to civil flying operations.

Tasks for the New Minister

ALTHOUGH the Ministry of Transport has been relieved of civil aviation, another of its branches is to be strengthened by the transfer from the Admiralty of shipbuilding and shiprepairing. This is an industry whose outlook at the moment is none too promising and which has suffered unduly from stupid and unofficial strikes. Mr. Ernest Marples, who has shown exceptional flair as Postmaster-General, is well fitted to undertake the heavier tasks of his new office. One of the first must be to tackle the financial problems of the British Transport Commisson; it is to be hoped that he will discourage fresh back-bencher promptings to hive off to private enterprise any of its more remunerative branches: that way spells disaster. Another of his early preoccupations must be a close study of road development plans, particularly in view of recent allegations of wasteful and unnecessary expenditure of taxpayers' money. Also some greater regard must surely be paid to the tendency envisaged by the Select Committee on Estimates for the trunk road and motorway programme to accentuate urban congestion and bottlenecks. Indeed, re-examination of the whole programme may possibly reveal a lack of pre-vision of other transport potentialities and should emphasise anew the urgent need for large-scale studies of traffic engineering in this country in respect of both road and rail projects. A word of congratulation is due to Mr. Harold Watkinson, who becomes Minister of Defence, for the confident manner in which for nearly four years —a record for a Transport Minister, excelled only by Mr. Alfred Barnes—he has conducted the affairs of our great industry. With energy he has tackled development in all its branches and has seen the dangers of political interference and innuendo. We wish him well in his new sphere.

What the Bus Industry Needs

AS far as the bus and coach business is concerned Mr. Watkinson has left Mr. Marples with a few unresolved problems. That of the rural bus is to be dealt with by the Jack Committee, although one must beg leave to doubt if any better solution will occur to them than the one put forward by the bus industry of a substantial concession in the crippling rate of fuel tax. Although that is a matter for the Chancellor of the Exchequer, people in remote country areas who lose transport facilities because public transport cannot be sustained against the competition of private motoring are inclined to blame the Transport Ministry for the lack of a policy. The bus industry in general can also be helped by measures to clear parked cars off main thoroughfares; in fact, the clearway principle might be extended to all bus routes. Then Mr. Marples will have to go over the p.s.v. speed limit problem, where Mr. Watkinson got as far as thinking in terms of 40 m.p.h. and then retracted where he should have gone on—for the bus and coach, under close engineering supervision and with skilled professional drivers, are surely worthy of being unrestricted where the private car has no speed limit. Proposals to enable vehicles to be left unlit on the highways at night all over the country should surely be looked at again; Metropolitan experience shows these unillumined obstructions, especially in foggy weather, to be an unmitigated menace. The new Minister has shown himself to be fond of fundamental investigation and he might therefore go into the whole question of the Construction and Use Regulations. They were built up on a haphazard basis; in this latter part of the century it would be justifiable to revise them in the light of modern automobile engineering and incorporate approved international standards on amenities and dimensions, where we appear to lag behind modern thought.

A Look at C-Licences

SOME at least of the hoary old canards about the C-licence can now safely be laid to rest, or so the Traders Road Transport Association feels, reviewing the outcome of the investigation it has been making in that realm. The Association has this week published (see page 7) the results of a survey directed at the world of the ancillary user, a survey which successfully illumines many a hitherto dark and dusty corner. As Mr. S. C. Bond, T.R.T.A. president, says, there is no longer excuse for purely uninformed criticism. The critics will probably not accept all the evidence as impeccable but at least they can grind their teeth on it. We say this because clearly any data supplied from an interested source and not subjected to test could be biased, but there is no evidence that this is so. In any event, the survey reflects the greatest credit on both the Association and the 5,000 members, operating nearly 100,000 vehicles, who co-operated to such effect. It is felt to provide a clear indication of the essential part played by C-licensed transport in the trade and industry of the country and to place in perspective the uninformed criticism referred to above. It considerably broadens the image of the industry as conveyed by the Ministry of Transport sample census of 1958, providing new and invaluable information concerning the physical make-up of the C-licensed fleet and emphasising its highly specialised character. The two surveys have this in common, that neither attempts to measure the efficiency of traders' transport, nor to evaluate its cost, much less what has come to be known as the social cost. The T.R.T.A. is quite clear in its own mind; traders have shown by their answers that they place "speed of delivery and certainty of timing" at the head of their reasons for choosing their own vehicles in preference to road haulage or rail and it follows that this is the best measure of efficiency to them. Quite simply it may be said that they regard cost as a secondary (though a close second) advantage to be secured.

The Test of Efficiency

CHARGES that C-licensed transport is uneconomic because it costs more (or would if all relevant items of cost were debited to it), and that it is carrying traffics more suited to the railways are either unsupportable or irrelevant in view of the foregoing efficiency test, the Association feels. It roundly denies, on the results of the survey, that there is widespread empty running; only 8 per cent of all vehicles return completely empty if bulk carriers and tippers are excluded and it is slyly pointed out, with an eye to the coal wagons that return north from London, that traders have no monopoly of unbalanced working. To recapitulate, the trader regards as most efficient that form of transport which best suits his needs and he considers that he is best judge of what is best for him. What are the lessons for public transport? First and foremost that carriers must redouble their efforts to give service, the sort of service the trader secures from integrating his own vehicles into the production process. More specialised vehicles must be bought by carriers, the bait being that they release the customer's capital for productive outlets instead of it going on vehicles. Where the traffic is one-way only and ordinary vehicles will suffice the carrier can supply his own return loads, but he has got to solve the problem of how to keep transport on tap for his customers. It comes down to this: public transport can hold its ground against the C-licence only if it is prepared and seen to be prepared to guarantee like-for-like service — and no one should underestimate the technical lead which the ancillary user has established, nor the influence of investment in machines, garages and management.

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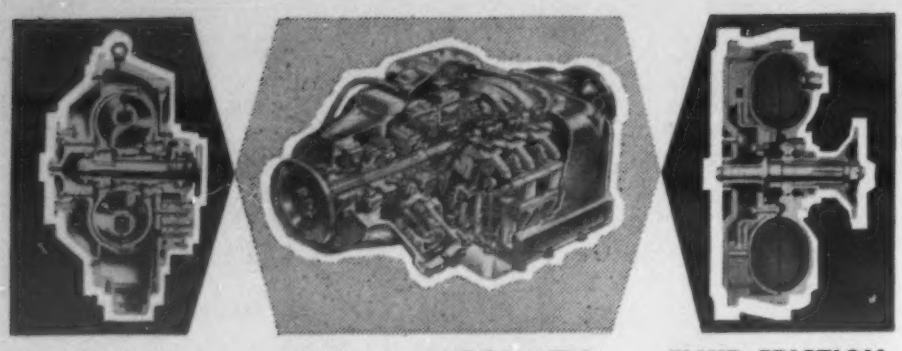
A New T.P.O.

HITHERTO the rolling stock for the Travelling Post Office workings on British Railways has been vehicles built for that particular route by the railway company concerned, but it has now been decided to introduce new standard stock suitable for use on any region. The first of these trains has been built at the Wolverton works of the London Midland Region and entered service on October 19 when it formed the Great Western Travelling Post Office Down which leaves Paddington at 10.10 p.m. for Penzance. The other train which forms the balancing working will be replaced by similar stock as soon as it becomes available. The new vehicles are of steel construction on a standard 63 ft. 6 in. underframe and have a 9-ft. body width. Previous postal vehicles have had side gangways, but the new ones are of centre gangway design and also incorporate modern equipment designed to ease the work for the train staff of 30 or so men. It is admitted that the nature of the task tends to make it hard to provide a really high standard of working comfort, but the new train goes much further in that direction than the earlier carriages. Glass fibre insulation reduces noise and temperature extremes and the sorting staff benefits greatly from the provision of fluorescent lighting. Special attention has also been paid to draught prevention and the gangway doors at the ends of the vehicles are controlled electrically by a very large push button designed and placed so that it can be operated easily if men have their hands full and are using a shoulder to nudge the switch. There is, of course, the standard dropping and picking-up equipment although, as it happens, there are only three occasions for its use on the down run and one on the up so far as the Penzance train is concerned. There are some 50 T.P.O.s at work in Britain today moving 530 million items of mail some 2¾ million miles a year. An important part of the national postal service, they should undoubtedly bring it benefit in their latest guise.

To Nice in Two Hours

THIS summer has seen the entry into service of the first commercial twin-jet air liner to be built in quantity outside the U.S.S.R. It is the Sud Aviation Caravelle with two Rolls-Royce Avon engines mounted at the rear of the fuselage. The aircraft is also significant as representing the first major attempt by the French industry to invade the field of modern turbine-powered transport aircraft design. Air France has 24 of the type on order and already has at least half a dozen at work. Initially they have been placed on such services as Paris—Istanbul via Milan or Rome and Athens, Paris—Rome—Beirut or Tel Aviv, Paris—Rome and Nice—Rome. The last two operations are maintained by the same aircraft and another comparable working is that whereby a Caravelle flies from Paris to London early in the morning, then flies from London to Nice and back, and thereafter returns to Paris. The attractions of jet flight are considerable and we were glad of a recent opportunity to study the operation of the Caravelle on the London—Nice service. The speed advantage of the jet begins to make itself manifest over a distance of the order of 650 miles and the scheduled times allow 40 min. less than those given to Viscounts on the same route, so that the outward flight from London takes under two hours. Seating in the aircraft in which we flew provided for 16 first- and 60 tourist-class passengers. The space allowance is adequate and we have by now become hardened to the slight feeling of constriction common to almost all tourist- and economy-class accommodation. The aeroplane is delightfully quiet and can cruise at 500 m.p.h. On the outward flight our cruising height was 33,000 ft. and on the return 35,000 ft. There was a certain amount of turbulence on each occasion, but it was scarcely noticeable and merely led to reflection upon the greater discomforts of those who were compelled to travel at lower altitudes. As more enter service the airline can assuredly expect to gain from its operation of so swift and comfortable a machine.



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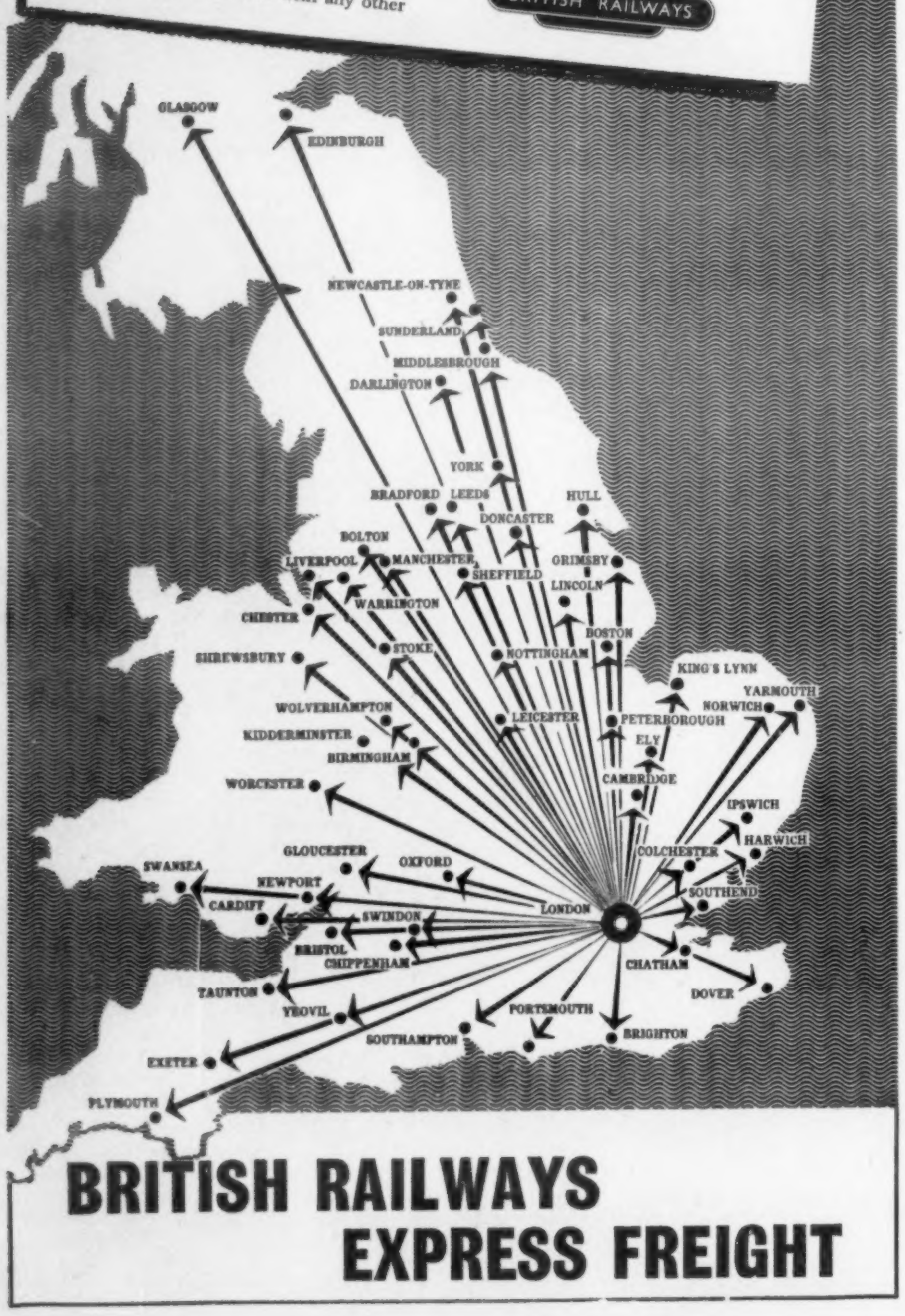
BRITISH RAILWAYS



BRITISH RAILWAYS
EXPRESS FREIGHT

MODERN TRANSPORT

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The Editor is prepared to consider contributions offered for publication in MODERN TRANSPORT, but intending contributors should first study the length and style of articles appearing in the paper and satisfy themselves that the topic with which they propose to deal is relevant to editorial requirements. In controversial subjects relating to all aspects of transport and traffic this newspaper offers a platform for independent comment and debate, its object being to encourage the provision of all forms of transport in the best interests of the community.

We desire to call the attention of our readers to the fact that Russell Court, 3-16 Woburn Place, London, W.C.1, is our sole London address, and that no connection exists between this newspaper and any other publications bearing somewhat similar titles.

Policy on Air Fares

MUCH has been made in recent weeks of the failure of International Air Transport Association traffic conferences at Honolulu to agree upon the introduction of economy class fares on intercontinental air routes. It was widely known beforehand that the British Overseas Airways Corporation intended to press vigorously for such a move and that it could expect weighty support. By reason of the need for unanimity in approving resolutions there is an inevitable tendency for most I.A.T.A. agreements on policy to represent something of a compromise. The existence of many inter-governmental agreements which provide for adherence by respective national operators to the I.A.T.A. agreed rates, which require subsequent government approval, makes the traffic conferences particularly important and failure to reach an acceptable solution could have far-reaching effects. The situation at the Honolulu conferences was, moreover, complicated by the earlier pronouncement of our then Minister of Transport (Mr. Harold Watkinson) that, if endeavours to obtain substantial fares reductions were unsuccessful, then the British Overseas Airways Corporation would have to consider independent action. This referred to the cabotage routes between Britain and its colonial territories and might seem to be of no concern to foreign countries, but there are certain consequent complications.

Cost of Equipment

INSOFAR as cabotage routes are concerned, the airlines of Commonwealth countries running in partnership would need to be consulted and could find it inconvenient to accept the proposal. More widespread, however, would be the effect of the reduced rates upon through bookings between points outside the cabotage area, since a summation of the relevant fares could well come out substantially below the normal charge for a journey between the points concerned. Airlines, and particularly the smaller ones, which are committed to very substantial expenditure upon new equipment, are naturally somewhat hesitant about lowering fares unless there is convincing proof that the additional traffic adduced thereby will bring in more revenue than could be expected from a slower traffic increase at higher fares. Contrariwise the size and cost of operating the new large jets is such that, unless they fly with a high load factor, the airlines can be faced with problems in the operating account. If the traffic is to be found, new markets must be tapped and the only feasible means of doing this is by the introduction of economy-class fares, as has been demonstrated on the North Atlantic services.

Surcharge or Decrease?

THIS does not represent the whole of the problem, for it is then necessary to reconcile the schools of thought supporting the imposition of a surcharge for travel by jet on the one hand or advocating reduced fares for travel by propeller-driven aircraft on the other. Last year the former reasoning was followed for the North Atlantic routes and surcharges were imposed as a form of protection to operators still depending upon the older types of aircraft. In the upshot the jets have flown with load factors verging on the fantastic, but traffic on the other machines has also increased notably. Undoubtedly, as Sir Willam Hildred, director-general of I.A.T.A., pointed out in his annual review (MODERN TRANSPORT, October 17), the effect of the campaigns associated with the new aircraft has been to stimulate traffic as a whole. These results would seem to support the arguments of the advocates of reducing fares by propeller-driven aircraft rather than those for raising rates for travel by the new machines. It is, however, well to realise that in Europe and the Middle East, where reductions were agreed for a large number of special holiday fares, considerable use will be made of modern types of aircraft in providing these facilities. Indeed, it will be essential so to do if economic utilisation figures are to be obtained for these expensive machines.

Seeking New Traffic

SO far as the United Kingdom is concerned, it may be expected that this week's announcement of the abandonment of restrictions upon expenditure of foreign currency will have some effect upon the demand for holiday travel, although the exuberant reception of the decision in some organs of the Press seemed to ignore the fact that many holidaymakers showed no inclination to spend anything like the full allowance under the existing regulations. Merely to avoid the complications of the V form will nevertheless be an advantage. If air transport is to obtain the traffic it seeks, it must, indeed, look among those whose budget can embrace only a strictly limited sum for holidays. Failure to agree on intercontinental fares will, if it continues, leave an "open fare" position between Europe and South Africa and countries to the east, including the Far East, where, theoretically, airlines could fix their own fares freely on international services provided they obtained the agreement of two or more Governments concerned. Mr. W. Gordon Wood, who presided over the traffic conferences, foresaw no fares war, however, between airlines. An open fares situation had existed in the North Pacific for some months past, yet there had been no change in fares. Sheer economics were against such a possibility; the carriers had too much at stake. This is obviously true but there seems, at the same time, to be no valid reason why Britain should not indulge in lower fares on cabotage routes, always provided that they are economically sound.

NEWS SUMMARY

FILLIP to the travel industry is offered by the lifting of restrictions upon expenditure on foreign holidays, except for a check upon those few who wish to lay out more than £250 per person in a year.

The remarkable Guy Wulfrunian bus chassis will be on view at the Scottish Motor Show next month.

After November 2 the Southern Region electric service between Woodside and Sanderstead will operate only in peak hours.

The British Transport Commission announces that the basic second-class fare on British Railways will be 2¼d. a mile from November 1.

Work has begun on the London Midland Region £4¾ million marshalling yard at Carlisle; it will replace nine existing yards in 2½ years' time.

New B.T.C. Police headquarters at Park Roval were opened on October 15 by Mr. K. W. C. Grand, a member of the Commission and chairman of the Police Committee.

Additional to the £1½ million recently spent there, the B.T.C. has authorised a £4¾ million scheme for extension of three quays and provision of transit sheds, cranes, grain elevators and silos at King George Dock, Hull.

City of London Corporation is to seek powers for a Victoria Embankment to Queen Victoria Street underpass to avoid conflict with Blackfriars Bridge traffic.

The London Midland Region is rebuilding the Stoney Road and Warwick Road bridges at Coventry as a preliminary to rebuilding the station and electrification. St. Albans City station is to have better cycle and parcels accommodation.

First deliveries of a massive new A.E.C. 18 cu. yd. Dumptruk are now being made to Richard Costain, Limited. This powerful off-the-road earthmoving machine has the AVT 1100 340-h.p. diesel engine and Twin-Disc torque converter; gross rating is 50 tons.

At the annual dinner of the Society of Motor Manufacturers and Traders the president, Mr. J. M. A. Smith, forecast universal car ownership in 20 years' time. The Duke of Edinburgh urged "Enjoy ownership and convenience of a car while you can; it will soon be quicker to walk."

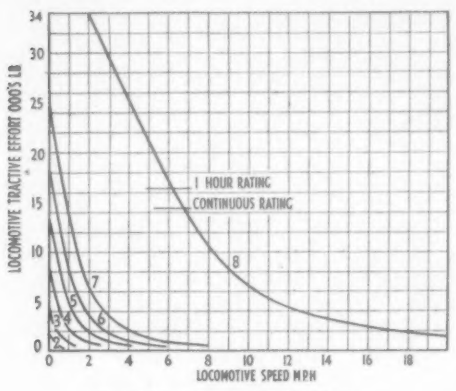
From November 2 diesel and electric passenger train mileage in the Eastern Region will average 326,000 weekly as against 249,000 by steam trains. In about 18 months steam working will disappear completely at Liverpool Street and at Stratford motive power depot, once the largest steam locomotive depot in the world.

HUDSWELL-BRUSH DIESEL-ELECTRIC LOCOMOTIVES

For Manchester Ship Canal Company

HEAVY INDUSTRIAL SERVICE

DURING 1959 diesel-electric locomotives of the 0-6-0 wheel arrangement have been delivered to the Manchester Ship Canal Company. They have already been illustrated in our issue of March 28, 1959; we now give a technical description with notes on their work. They were designed and built by Hudswell, Clarke and Co., Limited, Leeds, in close collaboration with Brush Traction, Limited, now



Tractive effort—speed curve

known as the Traction Division of the Brush Electrical Engineering Co., Limited, Loughborough. The Manchester Ship Canal Company is a statutory railway company, and provides rail services to many important industrial concerns as well as serving its own dock system.

The railway is split into three interconnected sections. The first runs from Trafford Park, Manchester Docks, through Weaste to Partington. In this section, which is by far the largest, there are very heavy tonnages of iron ore, sulphur, etc., dis-

It was also calculated that the 400 h.p. selected to fulfil the requirements on the Westinghouse Road—Bridgewater Junction run would also satisfy the requirements under headings (4) and (7) of the specified locomotive performance where a load of 450 tons was required to be hauled up a gradient of 1 in 40 at 3 m.p.h. with 83 per cent of the train on the grade. Detailed locomotive performance curves were calculated for the specified routes and loads and some of these curves will be included later in this article. The tractive effort-speed curve is the subject of a graphical illustration. The current-time curves showed that the ratings of the electrical equipment were adequate for the duties.

At the same time, many different types of diesel locomotives were carefully examined. When the investigation had been completed, it was decided that diesel-electric locomotives of 400 b.h.p., having a weight of just over 50 tons, would meet all the various stringent conditions. Two locomotives, *Alnwick Castle*, No. 4001, and *Arundel Castle*, No. 4002, have been designed and built.

A Robust Design

The design of the locomotive was most carefully developed to meet the full requirements of Mr. C. H. Gibson, the mechanical engineer of the Canal Company. Everything had to be robust and accessible for easy maintenance and servicing. Due to the many road crossings that are encountered, very special attention was paid to the design of the cab, fuel tank and bonnet, in order to provide the maximum visibility. A complete mock-up of the cab, bonnet and fuel tank was made in wood, and many hours were spent on the drawing board to achieve this visibility. From the photograph of the cab interior, it will be appreciated further that everything has been done for the comfort and convenience of the driver.

The frames and running gear follow orthodox locomotive practice; very strong cross-stays of fabricated steel carry the diesel engine and generator, and also provide support for the nose-suspended traction motors. The buffer beams are extended to the lowest part of the locomotive, so that in the event of derailment they afford protec-

Hudswell-Brush 0-6-0 locomotive for Manchester Ship Canal Company, with National engine and Brush generator and motors

embarked at Weaste and hauled in trains of over 700 tons to Bridgewater Junction with British Railways. This route calls for some very intensive locomotive work; there are about five miles of severe gradients of up to 1 in 73 and 1 in 40 on the double journey with reverse curves and constant interruption by road crossings. There are also considerable tonnages of steel, oil and general goods to deliver and to take away from the various very large works situated in Trafford Park.

At Partington there is a coal exporting installation where coal, coke and pitch is carried by rail to six coal tips. There are works which require considerable tonnages daily and coal is delivered by rail to tip into vessels. There is also general cargo for the docks. The second part of the M.S.C. railway is based on Ellesmere Port; there is a considerable amount of general cargo to be handled over gradients up to 1 in 55. At Stanlow, on the third section, many hundreds of empty rail tank wagons have to be delivered from British Railways by the Manchester Ship Canal locomotives to the various refineries. Block trains of loaded wagons are dispatched over gradients of up to 1 in 64 on the Canal Company's railway to the British Railways main line. The M.S.C. has heavy steam locomotives with 18 in. by 26 in. cylinders handling this traffic, but as some of these were reaching the end of their useful life and it was desired to take advantage of the economies provided by diesel locomotives, it was decided that they should be replaced.

Specified Locomotive Performance

From a survey of the Canal Company's track and traffic requirements, the most severe duties which the locomotive would be called upon to perform were determined and are summarised as follows:

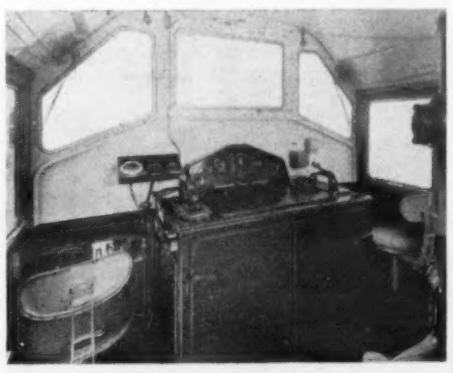
1. 700 tons to be hauled at 8 m.p.h. on a straight level track.
2. 700 tons to be hauled at 3 m.p.h. on a 1 in 100 grade.
3. 540 tons to be hauled at 3 m.p.h. on a 1 in 64 grade.
4. 450 tons to be hauled at 3 m.p.h. on a 1 in 40 grade.
5. Locomotive to start 740 tons on a 1 in 100 grade.
6. Locomotive to start 560 tons on a 1 in 64 grade.
7. Locomotive to start 450 tons, 83 per cent of which would be on a 1 in 40 grade.

In order to arrive at the correct size of diesel locomotive to fulfil the above requirements a detailed survey of the track on the various sections was made and the most severe gradients were measured at 100-foot intervals and this, together with particulars of the many curves, provided the information enabling an estimate of the required horsepower to be made. In order to keep the horsepower within reasonable limits it was decided that on heavy gradient work a speed of 3 miles per hr. would be acceptable and on the Westinghouse Road—Bridgewater Junction run, which has an average gradient of 1 in 89 and includes curves varying from 4½ to 9½ chains, it was estimated that to move 700 tons at 3 m.p.h. would require 400 b.h.p.

tion for the traction motor casings. At the same time they are cut away so that jacks can be easily placed under each corner of the beams.

Electrical Equipment

The Brush electrical equipment is of robust construction in order to withstand the heavy mechanical shocks normally experienced in shunting duties. They are built with ease of access for maintenance in mind, and fully conform to BSS.173(1941) with Class B insulation throughout. The main generator is a three-field type comprising a self and separate field and a series winding



Interior of cab and driver's desk

for engine starting. It is a screen-protected, single-bearing machine, solidly coupled through a barring disc to the engine crankshaft, whilst the magnet frame is mounted on the engine bedplate extension. Ventilation is by means of a fan attached to the engine barring disc.

The auxiliary generator is of the shunt-wound, self-ventilated, screen-protected type and is mounted on slide rails on top of the main generator frame. It is driven from the main generator shaft by vee belts and its output voltage is maintained at a constant 90, by means of a carbon pile type regulator. The traction motors are series wound and are force-ventilated by means of a separate motor-driven blower. They are of the nose-suspended type, mounted on sleeve bearings on the locomotive axles; the drive to these axles is through double reduction spur gearing which can be de-meshed if it is necessary to tow the locomotive at speeds above its normal maximum. The blower motor is a series-wound, self-ventilated foot-mounted machine, the armature being carried in ball bearings.

(To be continued)

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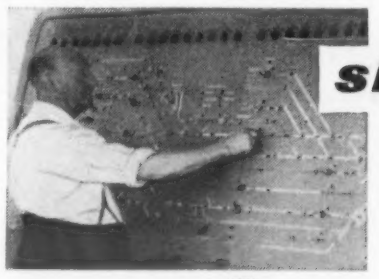

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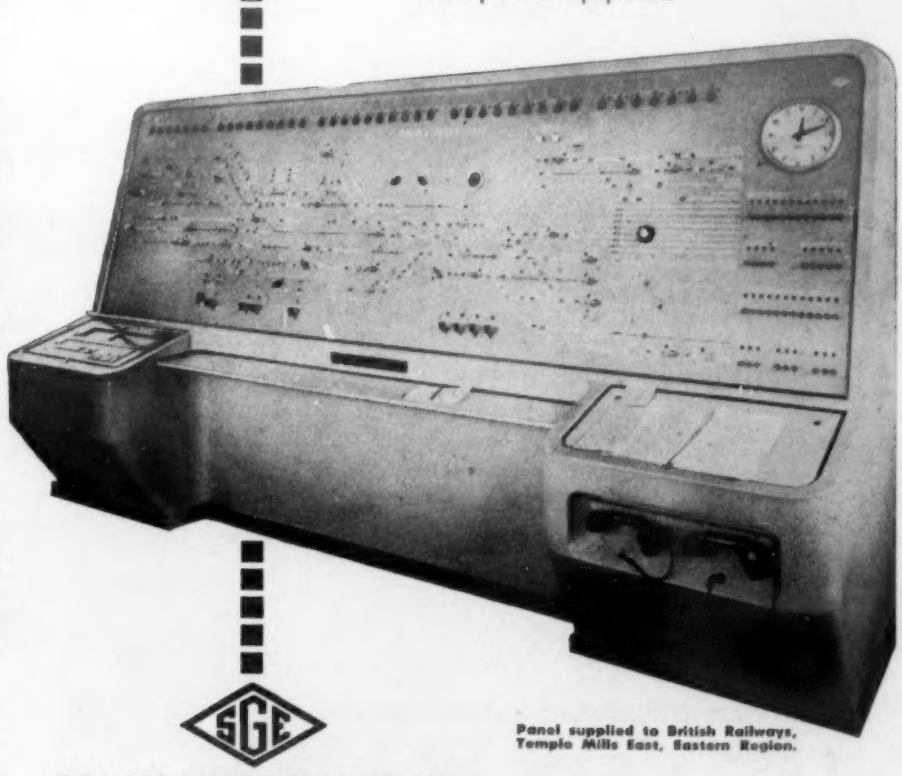

Panel supplied to British Railways, Temple Mills East, Eastern Region.

SGE

RELAY INTERLOCKING CONTROL PANELS

THE SIEMENS AND GENERAL ELECTRIC RAILWAY SIGNAL COMPANY LTD., EAST LANE, WEMBLEY

LORRY—BUS—COACH

User Threat to Public Haulage

ON top of many other frustrations, road transport now had another nigger in the woodpile for the last 18 months or so, said Mr. R. N. Ingram, chairman of the R.H.A. at a Stoke-on-Trent meeting on Wednesday this week. He was referring to normal user; until very recently the normal user statement had been regarded by operators merely as a statement of their current activities and not as a limitation within which their subsequent operations would be circumscribed. Indeed this category of licence has always been regarded and has become known as open "A."

No attempt had yet been made, even by the Transport Tribunal, he went on, to define the word "normal" in this context, there being therefore little uniformity throughout the country. At the moment the governing factor was, therefore, the discretion of the individual licensing authorities. The gravity of the situation was illustrated by the fact that proportions as high as 90 per cent as representing the normal user factor had been talked about in the traffic courts. It was of the utmost importance to the trade and industry of this country and to the successful future of the professional road transport industry that flexibility, which was the greatest advantage road had over rail transport was not destroyed by what was merely a piece a legal opportunism. The A-licensee must be left with sufficient freedom to carry out his duties as a public carrier, that being the capacity in which he was described even in the Road and Rail Traffic Act itself. The R.H.A. had taken the opportunity as a matter of high policy to support certain appeals on this subject in cases which were at present before the Transport Tribunal.

Trams now a Glasgow Burden

GLASGOW transport accounts were published this week. The trams lost £808,098 in the year ended last May, but the bus, trolleybus and underground services all showed surpluses, amounting in all to £270,029. With the closing of tramway routes over the next few years, which is the declared policy of the Corporation, operational losses per vehicle-mile have increased substantially, and the deficit is now running at nearly 11d. per mile, compared with 5.8d. in the previous year.

Glasgow—Dunstable Service Decision

THERE was a disappointment for Buckmaster Garages, Limited, of Leighton Buzzard, when it applied for an express road service licence in Glasgow. Backing was received for the licence granted in the Metropolitan and East Midland areas but Mr. W. Quin, the chairman of the Scottish area Traffic Commissioners, refused to authorise pasengers originating from Glasgow. He ruled that the evidence provided was singularly inadequate. Buckmaster proposed to run from Dunstable to Glasgow on Fridays and Sundays in July—August and at the New Year. Evidence was led by Mr. J. A. Hines for the applicant, with witnesses from the Glasgow area, speaking on travel southwards. Scottish Omnibuses, Limited, and the Western S.M.T. Co., Limited, objected through Mr. J. B. T. Loudon and British Railways through Mr. W. H. Howitt. In seeking rejection, Mr. Loudon claimed that Buckmaster sought to reap the cream of the traffic at a peak period. None of the witnesses had given substantial evidence of intended support, nor had they complained about existing services. Mr. Quin ruled that there was no case for the objectors to answer.

Garage-Bound Bakery Vans

AT the Guildhall in Worcester Milkmaid Bakeries, Limited, appealed against a decision by the council that its delivery vans must not leave the garage before 6.30 a.m. or after 10 p.m. The managing director of the firm, Mr. R. Beach, said: "This is having an enormous effect on our business. If our bread is late our customers will not buy from us." Mr. C. Marks, deputy town clerk, said the council's decision was made to safeguard the amenities of a residential area. "We have received two petitions and numerous letters complaining about noise at night causing lack of sleep and injury to health, depreciation of property and annoyance," he said. It was stated that bakers from Birmingham, Hereford and Gloucester were already delivering in Worcester before 6.30 a.m.

Thornycroft Swiftsure with works-built plastics cab and alloy body on inter-factory service; right, Albion underfloor-engined van in the J. Lyons fleet. Bodywork is by Normand, Limited

Replacements for Last Leeds Trams

APPLICATIONS by Leeds City Transport for cross-city bus services to replace the last trams there in November was granted by the Yorkshire area Traffic Commissioners in Leeds on October 19. The three remaining tram services to Crossgates, Halton and Temple Newsam will be replaced by new bus services between Crossgates and Horsforth, Halton and Half Mile Lane, Stanningley, and the central bus station and Temple Newsam. Mr. A. Stone, deputy chief traffic officer, Leeds City Transport, said that the Crossgates—Horsforth service would give the type of service they were trying to develop—direct east-west cross-city services. There would be links between City Square, Central Station and Wellington Street. The chairman, Major F. S. Eastwood, said it was in the interests of the public that the services which had been withdrawn should be returned to them. There had been considerable complaint of the abandonment of the Wellington Street and Corn Exchange link.

Provincial Busmen Formulate Claim

LAST week the national committee of the busmen's section of the Transport and General Workers' Union decided to present a claim for a substantial wage increase on behalf of both company and municipally employed busmen in the provinces. About 177,000 workers will be covered by the demand. The decision is formally subject to the agreement of the other unions in the industry; London busmen have already decided to put forward a claim for like amount.

Stone v. Concrete Bus Shelters

BECAUSE, it was alleged, the design was unsatisfactory, Northumberland County Council withdrew its planning exemption granted to Longbenton U.D.C. at Newcastle to erect bus shelters different from the design produced by the county planning committee. The county shelter was a design built with local stone and of a very solid character, the Longbenton shelters are precast concrete units with curved asbestos cement roofs. On appeal, Mr. H. Brooke, the Minister of Housing and Local Government, has said the Longbenton design was " by no means pleasant" but this did not justify the county council withdrawing its planning exemption. Longbenton says that stone shelters would be out of place in its area.

More Ribble Atlantean Coaches

PLEASED with the public reaction to its prototype Gay Hostess luxury double-deck coach, on which light refreshments are served to long-distance passengers, Ribble Motor Services, Limited, has placed an order for the 1960 delivery of 24 additional Gay Hostess coaches. The order was foreshadowed. Ten of these new vehicles will be operated by a subsidiary company, W. C. Standerwick, Limited, and the remainder by Ribble. It is anticipated that all the 25 coaches, involving a total expenditure of nearly £200,000, will be on the road by early next summer.

They will operate on day and night services between Lancashire and Glasgow, Edinburgh and Torquay, and from the Lake District, Blackpool and East Lancashire to the Midlands and London. Whilst these double-deck coaches are suitable for, and will have to continue to operate on existing routes for some years, they have been designed with motorway travel in mind. Applications have already been made to operate some of the London services over the Birmingham—London motorway, which would show a saving of about two hours in running time on services taking in the new route. The prototype Gay Hostess is at present operating on the Manchester—Glasgow service. It has recently been fitted with the Leyland O680 engine, giving 150 b.h.p. at 2000 r.p.m., in place of the O600 engine. The former engine will also be standard in the 24 additional vehicles. Experiments will continue with the final drive ratios. The existing ratios are being retained in the prototype at present as the immediate aim is to improve acceleration and hill climb.

No Superfluous Haulage Vehicles?

COMPLAINT was often made of too many road vehicles chasing too few goods, which in any case, it was said, ought to go by rail, said Mr. F. R. Lyon, public relations officer of the R.H.A., in Hull. But the hauliers had a complete answer; not one of their vehicles was superfluous. A survey that the R.H.A. made of long-distance vehicles had shown that each vehicle on average carried each week eight to ten times its own weight for an average distance of 140 miles. It was hard to imagine what better use could be made of the country's road system.

Bus and Coach Developments

D. J. Evans, Penrhyncoch, applies for the licences of Morgans Brothers.

All public sittings of the Metropolitan area Traffic Commissioner will be held, until further notice, at 10 Carlton House Terrace, S.W.1.

W. C. Standerwick, Limited, Ribble Motor Services, Limited, and Scout Motor Services, Limited, apply to divert their joint London coach services via the London—Birmingham motorway.

United Counties Omnibus Co., Limited, is seeking to add a tour of the London—Yorkshire motorway to the groups authorised from various points in its area.

★

TENDERS INVITED

THE following items are extracted from the Board of Trade Special Register Service of Information. Inquiries should be addressed, quoting reference number where given, to the Export Services Branch, Board of Trade, Lacon House, Theobalds Road, London, W.C.1.

October 30—South West Africa.—S.W.A. Administration for four wheeled TRACTORS, four coupled hydraulic TIPPING TRAILERS of about 4 cu. yd. (12,000 lb.) payload capacity, and two 1,000-gal. WATER TRAILERS. Tenders to the Secretary, Tender Board, South West Africa Administration, P.O. Box 27, Windhoek. (E.S.B./24177/59.)

November 2—Thailand.—State Railway of Thailand for 600 STEEL BILLETS for axles. Photocopies of tender documents from Export Services Branch, B.o.T., price 3s. (E.S.B./24195/59.)

November 3—Pakistan.—Department of Supply and Development for three petrol-engined railway MOTOR TROLLEYS, one for broad gauge and two for metre gauge. Tenders to the Deputy Director-General Department of Supply and Development, Chittagong. (E.S.B./24710/59.)

November 6—Union of South Africa.—Transvaal Provincial Administration for the supply of heavy-duty MOTOR AMBULANCES against orders to be placed up to November 30, 1960. Tenders to the Chairman, Transvaal Provincial Tender Board, P.O. Box 1040, Pretoria. (E.S.B./24672/59.)

November 6—Union of South Africa.—South African Railways for six petrol-engined FORK-LIFT TRUCKS. Photocopies of tender documents from Export Services Branch, B.o.T., price 18s. (E.S.B./23936/59.)

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COMMERCIAL VEHICLE TEST

*Leyland Atlantean Double-Deck Bus**

OUTSTANDING SMOOTHNESS AND SILENCE WITH REAR ENGINE

LEAVING aside the elegant simplicity of control of the two-pedal Pneumo-Cyclic transmission, which has now been established for several years and approved by operators and crews in many different parts of the world, undoubtedly our most outstanding impression gained from driving and riding in the M.C.W.-bodied Leyland Atlantean double-deck bus during a recent road test is the virtual banishment of diesel-engine noise and vibration from the main body of the vehicle. Much of this quite remarkable silence and smoothness, particularly when the bus is being driven under power, is due to the rear position of the engine, so that the vehicle is moving away from instead of into its own mechanically generated noise, but much is also due to the development of a subframe mounting and separate cover for the mechanical units that, we think for the first time, effectively isolates vibration and noise from the main chassis frame. Superiority of the Atlantean in this respect compared with every other diesel-engined vehicle of our experience was evident from idling right up to full power.

When details of the production Atlantean were released by Leyland Motors, Limited, last year, expressions of regret were heard here and there not quite as "clean" and flat along the frame top as the purist might like to see, using principally well-developed units of known performance and life. It permits individual freedom of choice of body make and type, with a wide front entrance and very high seating capacity in standard 30 ft. by 8 ft. dimensions and the acme of comfort and convenience for passengers and crew. What has been sacrificed in the eventual adoption of separate chassis and body construction is the saving in tare weight usually possible with integral construction, a few seats in the low-height body and a possible reduction in first cost of a standardised body design for both lowbridge and unrestricted routes.

Loaded to 11 tons gross (equivalent to 40 passengers) the M.C.W.-bodied 73-seat low-height Atlantean accelerated smartly up to its maximum of about 45 m.p.h. and could be stopped from 30 m.p.h. in an average distance of about 50 ft.

The production Atlantean chassis, which was fully described and illustrated in our issues for September 6 and 13, 1958, employs the renowned Leyland O600 125-b.h.p. vertical diesel engine mounted across the rear of the chassis. The complete power pack, comprising engine, automatic single dryplate friction clutch, four-speed Pneumo-Cyclic gearbox, angle drive, radiator and fan, is flexibly carried on a subframe designed for removal and replacement in a matter of minutes. All units of the power pack can be reached from outside through a hinged plastics hood and while this arrangement is less pleasing in appearance than the flush-panelled prototype, it does meet the operator's demand for quick accessibility for minor servicing and also contributes to the extremely quiet running of the vehicle. Other features designed to cut time spent on maintenance to a minimum are standard automatic chassis lubrication of either Clayton Dewandre or Tecalemit make, extremely efficient filtration of fuel, lubricating oil and air and brake drums that can be removed without disturbing the hubs.

M.C.W. body types developed for the Atlantean include a normal-height double-decker having 78 seats and a low-height version having 73 seats, 80 per cent of which are arranged in standard central-gangway four-abreast layout. Both versions have driver-controlled doors to a wide single-step front entrance, which should eliminate platform accidents and leave the conductor free to concentrate on fare collection. A third version, which was described in our issue for August 15, is based on the M.C.W. low-height body shell and has been fitted out by Weymann's, Limited, as a 50-seat long-distance coach for Ribble Motor Services, Limited, which company has just ordered 24

(*Continued on page 6*)

TEST RESULTS AT A GLANCE

Vehicle Details

MAKER: Chassis, Leyland Motors, Limited, Leyland, Lancs. Body, Metropolitan-Cammell Carriage and Wagon Co., Limited, Elmdon, for Metropolitan-Cammell-Weymann, Limited.

TYPE: PDR1.1 rear-engined 73-seat double-deck bus.

ENGINE: Leyland O600 vertical direct-injection diesel; bore 4·8 in. (121·9 mm.), stroke 5·5 in. (139·7 mm.), cubic capacity 597 cu. in. (9·8 litres); 125 b.h.p. at 1,800 r.p.m., 410 lb./ft. (56·7 kg./m.) torque at 900 r.p.m.

TRANSMISSION: **Clutch,** Leyland automatic friction, single dryplate 16¼ in. (412·8 mm.) dia.; **gearbox,** direct-air-operated Wilson-type Pneumo-Cyclic with semi-automatic (no clutch pedal) control, four-speed ratios 4·28, 2·43, 1·59 and 1 to 1 forward, 5·97 to 1 reverse; **angle drive,** spiral bevel and helical gear combination giving choice of four ratios 1·56, 1·37, 1·207 and 1·065 to 1; **driveshaft,** Hardy Spicer 1700 series open tubular; **rear axle,** fully floating spiral bevel with 3·083 to 1 ratio.

BRAKES: Compressed-air operation with diaphragm actuation, D1 control valve and Bendix-Westinghouse slack adjusters. Total lining area 702 sq. in. (4,529·3 sq. cm.).

TYRES: 10·00-20 12-ply rating, twin rear.

WHEELBASE: 16 ft. 3 in. (5·6 m.).

WEIGHT: Chassis only, 5 tons 12 cwt. (5,689·8 kg.).

Test Results

ROUTE: Mixed town and country running around Leyland.

CONDITIONS: Mild and dry

RUNNING WEIGHT: 11 tons (11,176·5 kg.).

PAYLOAD: Equivalent to 40 passengers.

FUEL CONSUMPTION: (*a*) Continuous running over 36-mile town-country route, 11·8 m.p.g. (4·2 km./litre) at 24·8 m.p.h. (39·7 k.p.h.) average speed. (*b*) Over 6-mile undulating country route making four stops per mile 8 m.p.g. (2·83 km./litre).

GROSS TON/M.P.G.: (*a*) 129·8 (46·7 tonne/km./litre). (*b*) 88 (31·65 tonne/km./litre).

TURNING CIRCLE: Wheeltrack 60 ft. (18·3 m.), sweep 68 ft. (20·7 m.).

ADJUSTMENTS DURING TEST: None.

ACCELERATION:

Average times for four runs, two in each direction, through gears:

0-20 m.p.h. 10 sec.
0-30 m.p.h. 21 sec.
0-40 m.p.h. 41 sec.

In top gear:

10-20 m.p.h. 11·5 sec.
10-30 m.p.h. 26·4 sec.

BRAKING: Average distance to stop from 30 m.p.h. on dry level tarmac 50 ft. Equivalent to 19·4 ft. per sec. per sec. or 0·6 g. overall deceleration. Don meter readings averaged 60 per cent. Handbrake only, 30 per cent Don meter.

ESTIMATED TOP SPEED: 47 m.p.h.

over the abandonment of integral chassis-body construction (with Metropolitan-Cammell-Weymann, Limited), independent front suspension and a standard lowbridge height, which had been features of the earlier prototype Atlantean. In fact of course, apart from London Transport and Midland "Red," the British bus industry obstinately refuses to accept integral construction (whether for good reasons or not is immaterial) and it would have been commercial nonsense to persist with a design that had not the general approval of the customer. Vindication is apparent in the order

Opening up the rear engine hood took one man less than a minute and permitted free access for all minor service operations

book, which shows that within a year of its introduction, well over a score of municipalities and company operators have placed contracts for the Atlantean, to a total value to date of about three million pounds.

Leading Features

What has emerged from the four years' or so development work that went into the Atlantean design, modified by close consideration of operator requirements, is a rear-engined chassis with exceptionally low frame height, though perhaps

* No. 462 in the MODERN TRANSPORT series of road tests.

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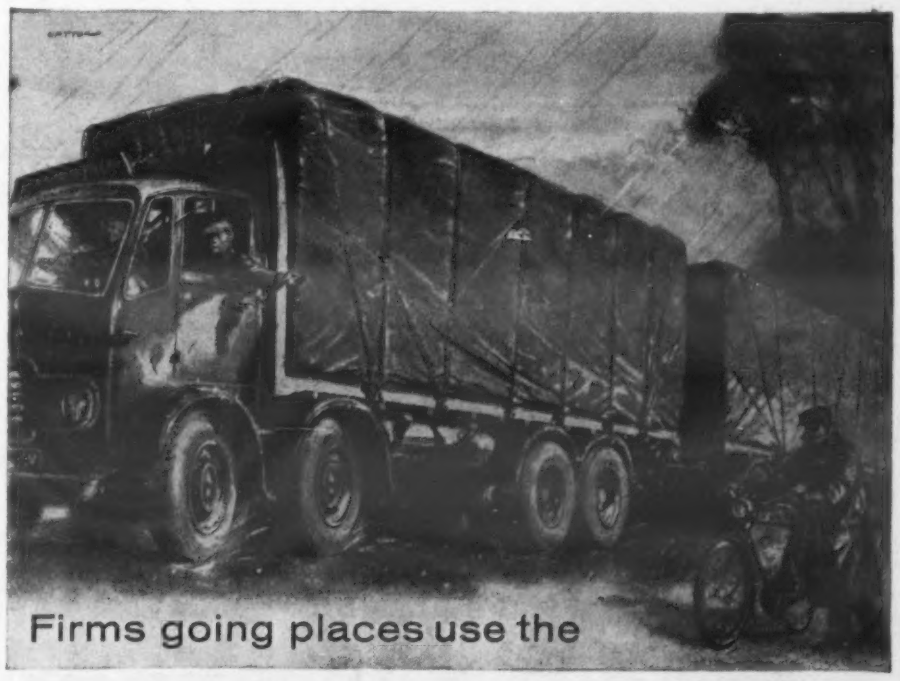

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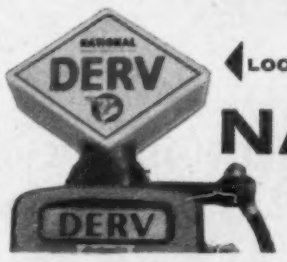

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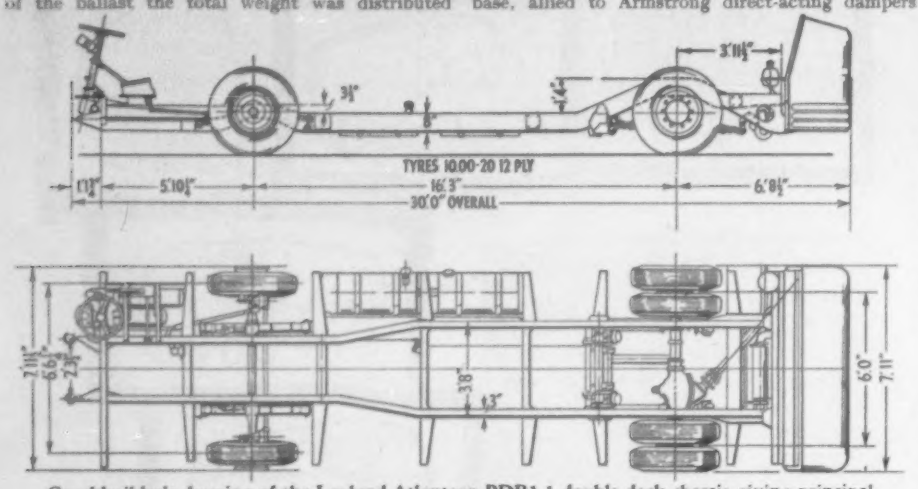
643

Atlantean Double-Decker On Test

(*Continued from page 5*)

similar coaches in a total order for 120 Atlanteans.

The Atlantean is designed for operation at a gross weight of about 13¼ tons, but for our test the low-height 73-seater was loaded to 11 tons gross (equivalent to about 40 passengers) to simulate average load conditions. With even loading of the ballast the total weight was distributed front suspension offered by Leyland, except perhaps for special service or where the maintenance of a constant platform height irrespective of load is of prime importance. This excellent result is achieved with dual-rate front springs, outrigged from outside the frame members to provide a wide base, allied to Armstrong direct-acting dampers



Coachbuilder's drawing of the Leyland Atlantean PDR1.1 double-deck chassis giving principal dimensions

7 tons 0½ cwt. over the rear axle and 3 tons 19½ cwt. over the front axle. At this weight the general handling was light and the stability and smoothness of the ride as near perfection as is ever likely to be achieved with conventional laminated springs and solid axles. We think there is likely to be little call for the alternative leaf-cum-pneumatic and the Leyland patented stabiliser that prevents excessive rolling fitted to the rear axle.

With the absence of noise and vibration already referred to (which is so marked in the driver's seat that when there is any general background noise release of the starter button becomes really an act of faith in the unfailing startability of the O600 engine) and the superior riding qualities goes also the simple control of the Pneumo-Cyclic gearbox, which makes the left foot redundant. Allied with the centrifugal friction clutch, there is perhaps slightly more "kick" when the gearchange is operated without attempting to synchronise engine speed than when a fluid coupling is used, but this is not excessive even when the accelerator is held hard down while changing progressively up through the gears. Intelligent use of the accelerator during gearchanging produces entirely imperceptible changes of ratio. The system works so well with so little effort of the driver that there will probably be little call for the fully automatic control offered as alternative equipment.

Lively and Flexible

At 11 tons gross and with a final transmission combination giving an overall ratio in top gear of 5.334 to 1 (other overall ratios available are 6.074, 4.702 and 4.15 to 1) the O600 engine proved both lively and flexible. In four maximum-acceleration runs from rest through the gears the average time taken to reach 20 m.p.h. on fairly level road was 10 sec., 30 m.p.h. was reached in 21 sec. and 40 m.p.h. in an average time of 41 sec. Maximum recorded speeds in the three upper ratios were 19 m.p.h. in second, 29 m.p.h. in third and 47 m.p.h. in top. Speed in top gear could be reduced to below 10 m.p.h., from which pressure on the accelerator pedal brought smooth and ready response, with acceleration from 10 to 20 m.p.h. in 11½ sec. and from 10 to 30 m.p.h. in 26½ sec.

Braking also measured up to the high standards of performance observed in other respects. The system is powered by a 10 cu. ft. compressor, with separate reservoirs for brakes and air-operated auxiliaries, and is designed to be self-compensating and to require a minimum of maintenance. Other features include diaphragm actuators, S-profile cams, the progressive D1 operating valve and Bendix-Westinghouse slack adjusters. In normal driving there was satisfyingly instantaneous and straight-line response in direct proportion to varying pedal pressure, while in a series of simulated emergency stops from 30 m.p.h. on dry tarmac the average distance to stop measured by our chalk-firing magazine was 50 ft., with a shortest distance of 48 ft. In these stops there was even marking on the road from all tyres but no wheel locking.

Although on this route there was no opportunity of carrying out our usual test for brake fade, there was no evidence at the end of the series of heavy brake applications that this is likely to be a problem. Don meter readings remained consistently around 60 per cent and Tapley meter readings between 75 and 80 per cent. The generous brake dimensions provide a total of 702 sq. in. of lining area—about 53 sq. in. per ton of maximum gross vehicle weight. The handbrake, linked mechanically to the rear brakes, with an effective lining area of 432 sq. in., produced average readings on the Don meter of 30 per cent when applied hard at about 20 m.p.h.

Fuel Consumption

As well as its outstanding record for longevity in widely varying applications, the Leyland O600 diesel engine has also earned a reputation for low fuel consumption and users of the Atlantean are not likely to be disappointed in this respect, provided that the most suitable of the four available final-drive ratios is selected and it is realised that there is bound to be a wider scattering of results due to the greater difference between light-load weights and peak-load weights. We obtained fairly widely differing results in two fuel-consumption checks, one operated non-stop—apart from those necessitated by traffic and road conditions—over 36 miles and one run over a shorter course making four stops a mile.

In the first check a circular trip from Leyland totalling 36 miles embraced both town and country roads, only a short section of which was a main road with width for more than two lines of traffic; it took in a number of villages and part of Bolton and Chorley and while no steep gradients were included the general nature of the route necessitated fairly frequent use of the lower gear ratios. Careful measurement of the fuel used at the end of the run, which was covered at an average speed of nearly 25 m.p.h., gave the surprisingly high figure of 11.8 m.p.g. While operators will hardly expect anything like such results in stage service, it is a figure that is quite likely to be realised and even exceeded by Atlanteans used in long-distance coach service. Over a six-mile undulating, but not very hilly, country route, making four stops of 10 to 15 sec. duration in each mile and accelerating smartly up to normal running speed after each stop, a fuel consumption of 8 m.p.g. was recorded. This appeared to be a realistic result for short-stage work under average conditions with consistent fairly heavy loadings, and no doubt many operators will achieve overall figures rather above this level.

Improved Operating Efficiency

The Atlantean is the successful outcome of a determination to improve the operating efficiency of the stage-service bus. Though novel in layout, it is orthodox in design and a maximum of effort has gone into a reduction of the time and cost involved in maintenance. As a vehicle it is difficult if not impossible to fault and the approval of operators already evident in the lengthening order book cannot fail to be matched by that of its future crews for its general ease of handling and of passengers for a comfortable, quiet and safe ride.

Criticism might be levelled at the rather limited luggage space, due to the staircase positioning over the deep offside front wheel arch which is such that two mums with pushchairs could effectively dam the flow over the generous platform circulating area. The fitting of an outside engine stop button on the back of the bus above the engine hood, while an excellent safety measure in accident rescue work, might also provoke a unique form of interference if left in its present position in reach of ill-intentioned or irresponsible youth.

British Railways is now using a superior type of p.v.c. vestibule curtaining material manufactured by Mellowhide Products, Limited, South Molton Street, London, W.1. Consisting of Geon p.v.c.-treated glass cloth, this new material is now in regular use on British Railways passenger coaches, where its toughness and ease of cleaning combine to make it an ideal material. The fact that it is also flame-resistant is also an important advantage. Geon p.v.c. is manufactured by British Geon, Limited, a company in the Distillers Plastics Group.

A boat powered by a 1.6-litre Perkins Four 99 marine diesel engine won the runabout tourist class for craft with standard engines in a gruelling Paris six-hour motorboat race on the Seine recently. The 15-ft. boat—one of 43 to finish the course out of an entry of 79—had an average fuel consumption of eight litres an hour. Consumption of petrol-engined boats in the race varied from 12-40 litres an hour according to size. Engineers had worked against the clock to install the engine in time for the race. It was not even run in and had actually only three hours' operational running when the race started.

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Forthcoming Events

Until October 31.—International Motor Show at Earls Court.

October 24.—Institution of Railway Signal Engineers (Bristol). Visit to Severn Tunnel hump yard and the Tunnel pumping station at Sudbrook.

Light Railway Transport League. Paper by Mr. R. B. Parr, "The Tramways of Nottingham." At Exchange and Engineering Centre, Birmingham. 2.30 p.m.

Light Railway Transport League. Papers by Messrs. J. H. Price, "The Dartford Hospital Tramway" and O. J. Morris, "Northfleet Conduit." At Fred Tallant Hall, 156 Drummond Street, London, N.W.1. 3 p.m.

October 27.—Institution of Civil Engineers. Paper by Messrs. N. W. B. Clarke and O. C. Young, "Some Structural Aspects of the Design of Concrete Pipelines." At Institution of Civil Engineers, Great George Street, S.W.1. 5.30 p.m.

Institution of Electrical Engineers (Measurement and Control). Paper by Mr. W. Renwick, "Discussion on Future Trends in Memory Stores for High-Speed Digital Computers." At Savoy Place, W.C.2. 5.30 p.m.

Institute of Transport (West Middlesex). Paper by Mr. J. E. Colpus, "Shipping and Types of Ships." At Conference Room, Control Tower Building, London Airport Central. 6 p.m.

October 28.—B.R. Southern Region Lecture and Debating Society. Paper by Mr. S. A. Finnis, "Southampton Docks. At Chapter House, St. Thomas' Street, S.E.1. 6 p.m.

British Institution of Radio Engineers (Radar and Navigational Aids). Inaugural meeting with papers by Captain J. D. F. Elvish, "Radio—Its Impact on Shipping," and Air Marshal Sir Raymund G. Hart, "A Historical Survey of Radar and Radio Aids to Aircraft Navigation." At London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C.1. 6.30 p.m.

October 30.—Traders Road Transport Association (West Midland). Annual dinner and dance. At Grand Hotel, Birmingham.

Institute of Transport (East Midlands). Annual dinner dance and visit of president. At Grand Hotel, Leicester.

October 31.—Railway and Canal Historical Society. Visit to early buildings at Derby Station and Works.

Road Haulage Association (East London Sub-Area). Annual Banquet. At Park Lane Hotel, W.1.

November 3.—Institute of Transport. Anniversary luncheon. Speaker Field Marshal Viscount Montgomery of Alamein. At Connaught Rooms, Great Queen Street, W.C.2. At 12.15 for 1 p.m.

November 12.—Public Transport Association. Annual dinner. At Connaught Rooms, Great Queen Street, W.C.2. 6.45 for 7.15 p.m.

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AP 948

THE PATTERN OF C-LICENSED TRANSPORT

T.R.T.A. Survey Fills Many Gaps

COST SECONDARY TO SERVICE IN MOST CASES

THANKS to a sample survey carried out by the Traders Road Transport Association in June last year more data is now available concerning the make-up and operations of the C-licensed vehicle population than of any other class of road vehicle and in certain respects a more useful picture is presented than was the case with the Ministry of Transport survey of all classes of road transport in 1958. The T.R.T.A. *Survey of C-licensed Vehicles* (price 2s.) is based on reports from 4,837 members operating 98,340 vehicles. It concludes inter alia that speed of delivery and certainty of timing are the main reasons for the use of C-licensed vehicles in preference to other forms of transport; that, in general, cost is important but

TABLE I—WHY C-VEHICLES ARE USED IN PREFERENCE TO ROAD HAULAGE OR RAIL

(* *Weighted votes cast as per cent of possible votes*)	*In preference to Road haulage per cent*	*In preference to Rail transport per cent*
Speed of delivery and certainty of timing	68	75
Cost	44	56
Placing of goods in premises beyond point normally served by public transport	32	42
Avoidance of breakage or damage	33	44
Avoidance of pilferage	21	25
Reduction in packing materials and packing costs	24	31
Ensuring prompt return of empties	30	32
Specially constructed vehicles not normally supplied by public carriers	29	31
Installation and maintenance of equipment by driver	6	4
Other special services provided by driver, e.g. soliciting orders, collection of cash, etc.	39	32
Advertising on vehicle	37	32
Any other reasons	24	22

* Every vote on a return was weighted according to the number of vehicles on that return, e.g. a vote for "cost" on a 7-vehicle return = 7 votes. On this basis the maximum possible vote for any reason was 98,340, the number of vehicles covered by the survey. Actual votes cast are expressed above as a percentage of 98,340.

secondary to service; and that the growth in the number of C-vehicles reflects the degree of service given by trade and industry and required by customers. The booklet runs to 40 pages and includes 18 pages of statistical tables.

All members were invited to complete a questionnaire, designed inter alia to show:

Types of vehicles classified into unladen weight groups;
Distribution of vehicles according to the size of fleets;
Type of work, i.e. the number used as non-load carriers, standard load carriers and specially constructed vehicles;
The extent to which vehicles were loaded on return journeys;
The proportion of vehicles which were used on journeys beyond 75 miles radius;
The reasons why C-licensed vehicles were preferred to other forms of road transport; and
Analysis of the above-mentioned information according to the size of fleet and nature of business.

The forms were placed with an independent agency for analysis and compilation of returned tables. In this way the neutrality and impartiality of those responsible for the processing of the statistics has been assured. Subsequently, this document was checked by an independent statistician as a precaution against bias, selectivity, inaccuracy or lack of reasonable statistical argument. As already indicated, replies were received in respect of 98,340 vehicles. This represents 9 per cent of the total C-licensed fleet registered at June 30, 1958, but the T.R.T.A. sample is more valuable than this would suggest since it is especially informative in respect of the heaviest vehicles. This is because no fewer than 11,683 vehicles over 5 tons unladen are included, i.e. 59 per cent of all registered vehicles in this category.

TABLE II—TYPES OF VEHICLE IN SAMPLE

Type of vehicle	*Total vehicles*	*Unladen weights: Up to 1½ tons*	*Over 1½ up to 3 tons*	*Over 3 up to 4 tons*	*Over 4 up to 5 tons*	*Over 5 up to 6 tons*	*Over 6 tons*
Service or maintenance	8,187	7,414	521	125	61	29	37
Representatives	4,364	4,301	40	13	4	3	3
Other non-load carriers	2,203	1,191	597	233	83	24	75
TOTAL NON-LOAD CARRIERS	14,754	12,906	1,158	371	148	56	115
Electric	7,959	7,839	93	19	7		1
Platform	27,205	1,356	13,771	4,645	2,750	1,779	2,904
Boxvans (no interior fittings)	18,754	9,078	6,824	1,433	742	347	330
Boxvans (specially fitted)	13,728	5,610	6,579	668	577	98	196
Insulated or refrigerated vans	2,300	106	1,559	333	104	59	139
Bulk carriers (liquids)	5,356	34	372	621	543	1,594	2,192
Bulk carriers (solids)	985	55	213	234	108	65	310
Tippers	5,991	37	1,714	1,813	1,263	486	678
Other load-carriers	1,308	311	365	159	139	142	192
TOTAL LOAD-CARRIERS	83,586	24,426	31,490	9,925	6,233	4,570	6,942
ALL VEHICLES	98,340	37,332	32,648	10,296	6,381	4,626	7,057

Five Avenues of Inquiry

The survey sets out to report on five aspects of C-licences: why the vehicles are acquired in the first place; why their numbers have increased; the sort of vehicles used; the degree to which C-vehicles are return loaded; and the radius within which they are employed. It has been asserted that some C-licence operation is uneconomic and that goods are carried which are more suited to public transport. Trade and industry have been criticised for alleged over-investment in C-licensed vehicles to the detriment of the railways. The facts now obtained, says the T.R.T.A., confirm that considerations of service are of outstanding importance to the trader and substantiate the other generally accepted reasons for using C-licensed vehicles. Members were asked to indicate the six most important reasons for using their own vehicles in preference to hired road haulage and rail transport respectively. The results are presented in simplified form in Table I.

Speedy and Timed Delivery

Commenting upon these factors, the report says of the first that, as service to customers depends largely upon speed of delivery and certainty of timing, it is no surprise to find that they are of supreme importance in selecting a means of transport. They are equally important in planning production schedules, where it is vital to have the right supplies in the right place at the right time. Accurately timed delivery may render extensive stock and warehouse facilities unnecessary. Control over his own vehicles also means that a trader is more favourably placed to effect prompt delivery in an emergency.

Important though cost is, the survey reveals beyond dispute that it is secondary to the vital need to give service to customers. Public transport must compete in terms, not only of charges, but also of service, if it is to attract traffic from C-licensed vehicles. On the ability to place goods in premises beyond the point normally served by public transport, the comment is that while this is a general feature of road transport, there are special advantages when vehicles are operated by the trader himself; C-vehicles are often virtually part of the production process. They are designed to fit loading bays, to take standard pallets or racks, and become the end point of the factory production line. The relatively high number of votes cast under those headings emphasises the value of C-vehicles in reducing breakage, damage and to a lesser extent, pilferage. The cost of recovering and repairing or replacing a rejected article can be so disproportionately high that the virtual elimination of damage by the use of the trader's own vehicles and staff may, in some instances, become the predominant factor in his choosing to use them. Closely bound up with this is the added advantage that elaborate and expensive packing can often be dispensed with or substantially reduced.

The Right Vehicle

A large number of vehicles of special design or with special fittings is operated under C-licences. These vehicles can sometimes be provided by public transport, but to compete with the trader's own vehicle they must be integrated with his materials handling technique at all points. This often means that the vehicle must be placed at the exclusive service of the trader. In other words, if trade and industry are to use specialised vehicles provided by public services, they will require them to be operated under conditions which approximate to those under which C-licensed transport works. Throughout, says the report, the trader is concerned with service, to the customer and to his factory or shop.

Although the number of traders' vehicles has increased by an average of about 5 per cent per annum over the past five years, but only 2.7 per cent from 1957 to 1958, some 24 per cent of the vehicles in the survey are non-load carriers and electric vehicles. The increase in these marks the transition from bicycle and horse van to the electric run-about, from commercial traveller's car to dual-purpose vehicle and reflects the ever-increasing demand for maintenance services caused by mechanisation of home and office appliances. About 28 per cent of the vehicles are specially constructed or fitted. These observations lead on to a consideration of the physical make-up of the C-vehicle population. The sample is analysed in this way in Table II.

Specially constructed vehicles—fitted boxvans, insulated and refrigerated vans, tippers, bulk carriers are deemed specialised. The proportion of standard non-specialised load-carrying vehicles is reasonably consistent at about 50 per cent at all weights, but it is noted that half of all the vehicles in the survey are specialised either in use or construction or both. Non-load-carrying vehicles include representatives' vehicles, and those which are used to carry materials, tools, apparatus or equipment used by the driver or passenger in carrying out his job, as well as vehicles used as mobile plant, shops or workshops.

Integration of Transport with Industry

The steady integration of the road vehicle into the manufacturing and distributive pipeline from raw material processing to finished products and thence to the consumer is considered to be one of the major reasons for the increase in the use of C-licensed vehicles. Such integration demands increasing specialisation of vehicles and fittings so that maximum advantage can be taken of mechanical handling into, through and out of the factory, warehouse and shop. Specially constructed or fitted vehicles account for 28 per cent of the total. The proportion increases rapidly with weight so that 50 per cent of vehicles over 5 tons are specially constructed or fitted for functional use. It is pointed out that specialised construction and use reduces the practicability of carrying return loads.

In a section on return loading it is reported that only 17 per cent of the vehicles return empty and this figure is reduced to 8 per cent if bulk carriers and tippers are excluded. These types of vehicles do not normally carry return loads. Although 50 per cent of the heaviest vehicles return empty, this percentage is again reduced to 19 per cent when bulk carriers and tippers are excluded. The remaining heavy vehicles, mostly of the platform type,

(*Continued on page 13*)

TABLE III—RETURN LOADING FACTOR
Certain Classes of Load-Carrying Vehicles

	50 per cent or more capacity per cent	*Less than 50 per cent capacity per cent*	*On circular delivery per cent*	*Total per cent*	*Empty per cent*	*Grand Total per cent*
All vehicles in survey	36	14	33	83	17	100
All vehicles excluding tippers and bulk carriers	41	13	38	92	8	100
* *Vehicles over 5 tons:*						
Total	25	16	9	50	50	100
Tippers and bulk carriers	5	11	2	18	82	100
Total excluding tippers and bulk carriers	45	20	16	81	19	100
Platform vehicles only	47	20	13	80	20	100

* The figures for vehicles over 5 tons are based on 90 per cent of the vehicles of that weight, the balance not being capable of analysis by weight.

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SENIOR ACCOUNTANT

APPLICATIONS are invited from chartered or certified accountants for a senior appointment in the Chief Accountant's Department at the London headquarters of the British Electric Traction Group of companies. Candidates should have sound practical knowledge and experience of passenger road transport accountancy organisation and systems, and should be competent to carry out investigations with a view to recommending and supervising the introduction of mechanised accounting systems where desirable. The commencing salary will be dependent upon the qualifications and experience of the successful candidate, and will be commensurate with the responsibilities attaching to the appointment. The appointment will carry membership of a contributory pension scheme. Applications, stating age, education, qualifications, and giving full particulars of present and previous employments should be sent, under "Private" cover, to the Chief Accountant, The B.E.T. Federation, Limited, Stratton House, Piccadilly, W.1, to arrive not later than November 13, 1959.

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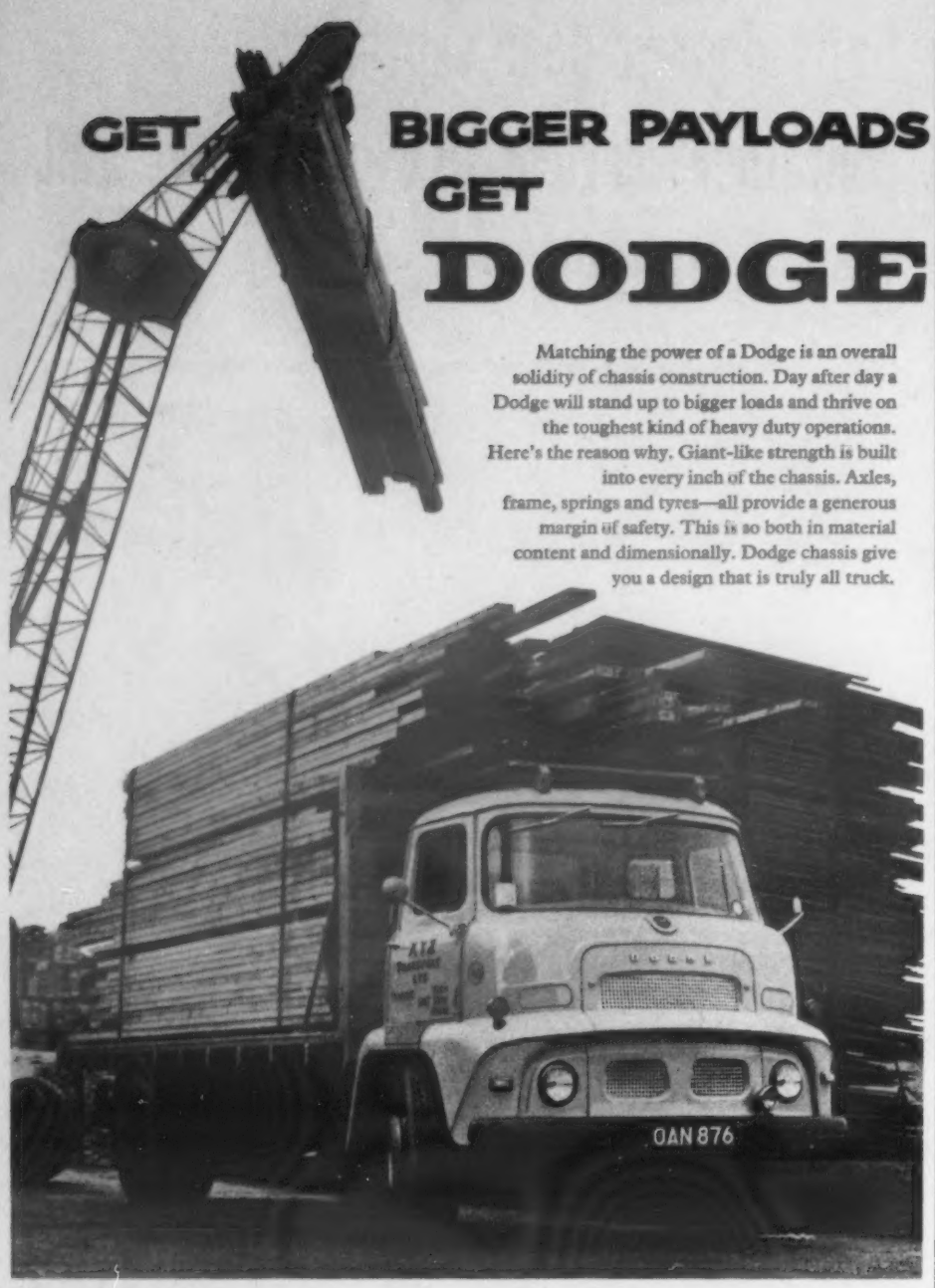

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NEWS FROM ALL QUARTERS

Hotel Reservations at Euston

A hotels reservation bureau has been opened at Euston Station. This is an entirely new departure for British Railways. Passengers arriving at the station can now book in at any one of 11 hotels in the Euston area before leaving the station.

Western Region Rail Welding Depot

Work has commenced on a new rail holding and flash butt welding depot at Shrewsbury to meet the increased demand in the Western Region for long welded rails. It will weld rails in lengths of up to 300 ft., and later up to 900 ft., on the site.

Rail Plans for Sheffield

Twelve railway marshalling yards in Sheffield are to be replaced by one modern depot, Mr. H. C. Johnson, general manager of the Eastern Region, announced at a Sheffield function on October 12. In addition, the six or seven steam motive power depots would be replaced by one modern diesel depot "until possibly at some time electrification pushes still further ahead."

Manchester Rail Freight Depots

Following extensive reconstruction and modernisation, the London Midland Region goods depots at Ancoats and Ardwick East in Manchester have operated under a new "one-way" system since October 19. Traffic previously delivered from the two depots will be concentrated through Ardwick East, and traffic for forwarding will be concentrated through Ancoats. A unified road fleet will operate for the delivery and collection of traffic.

Indian Railway Research Board

The Indian Railway Board has finalised a scheme for high-level liaison between the growing railway research organisations and other research institutions in the country. Liaison will be effected through a new body to be constituted shortly, called the Central Board of Railway Research. Among its members will be two nominees of the Council of Scientific and Industrial Research. Other members will include the chairman and member (engineering) of the Railway Board, Mr. K. B. Mathur. Among the functions of the Research Board will be to screen research problems and guide future developments.

Canals for National Trust

Agreement has been reached for the leasing for five years to the National Trust of the 13-mile southern section of the Stratford-on-Avon Canal, terminating in a basin at Bancroft Gardens in Stratford, in front of the Shakespeare Memorial Theatre. The Trust is also interested in leasing the southern section of the Staffordshire and Worcestershire Canal. If the arrangement proves satisfactory the canals will be transferred outright. The British Transport Commission will pay to the trust a sum equal to the average annual loss sustained by the nation in running the canal, which has been agreed at £1,500, and the trust will also receive revenues from the canal and will meet the outgoings hitherto borne by the Commission.

Rebuilding Tenby Station

Work has started on the reconstruction of Tenby Station, in the Western Region. The scheme includes the complete removal of the interior, extending the existing building on the down platform, and the demolition and subsequent rebuilding of the building and canopy on the up platform. The structure on the down platform will embrace a new enlarged porch leading from the forecourt into the renovated ticket and inquiry hall.

Cable Railway Tenders Sought

The Director-General of Railways in the Pakistan Ministry of Railways and Communications is asking for tenders for the supply and installation of a cable railway 11½ miles in length and with a capacity of 50 tons of stone rubble per hour. The railway is planned to connect Bholaganj Boulder Field, in East Pakistan, with the railway station at Chattak. The supplying firm would be required to keep the unit in operation for the period of one year and to train Pakistani personnel.

Elevated Road Across Manchester

Plans have been drawn up by Manchester Town Planning Committee for an elevated highway, 1,200 yd. long, linking Chester Road, Hulme, and Fairfield Street, to the east of Piccadilly. It would provide an alternative route between east Manchester and Salford docks, as well as an exit road to Altrincham and district. There would be ramps down to Cambridge Street and Brook Street en route and a large roundabout at the London Road—Fairfield Street end. Work is expected to commence in 1961 and the total cost of the project, including land acquisition and surface road links, will be about £6 million.

Colindale Station to be Rebuilt

Colindale Station, on the Underground Northern Line, is to be rebuilt. The station was badly damaged by enemy action in 1940. A temporary entrance, exit and ticket hall have been built while the existing ticket hall site and the area as far west as the entrance roadway to Colindale Hospital will be redeveloped as shops and offices by a private company. The building to be erected will incorporate space in the south-east corner on the ground floor for a new Underground entrance and ticket hall. The original station, of red brick Georgian architecture, was opened in 1924 (illustration, MODERN TRANSPORT, August 23, 1924).

Film on Motorway Behaviour

A film in which Jack Warner's voice reminds motorists of the new driving habits required on the motorways is featured in the British Road Federation stand at the Motor Show this year. The film deals with overtaking, drowsiness at the wheel, and the dangers (apart from the offence) of stopping on the motorway, of using the hard shoulder except in an emergency, and of making a U-turn across the strip between the carriageways. These sequences will be interspersed with contrasting shots of the stifling congestion prevailing in our cities today, introducing the main theme of the display, which is to emphasise the urgency of the need for urban motorways to ease congestion in built-up areas.

BRITISH ALUMINIUM FOR PUBLIC SERVICE VEHICLES

Bus bodies for Cardiff Corporation, built by Longwell Green Coachworks Ltd, have a basic structure of aluminium alloy, whilst all panelling is of half-hard pure aluminium sheeting. The metal for these bodies is manufactured and supplied by British Aluminium, who specialise in sections and sheet for the coachbuilding industry.
Full information is available from the Development and Technical Service Department.

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AP367

COMMERCIAL AVIATION

Starting Dates for T.C.A. DC8s

B.E.A. HELICOPTERS

COMMENCING date of its DC8 jet service between Britain and Canada has been announced by Trans-Canada Air Lines as June 1, 1960. Mr. G. R. McGregor, president, said the 127-passenger aircraft would serve London daily and Prestwick twice-weekly. DC8 service between Montreal, Toronto and Vancouver would commence on April 1 offering five-hour flights across Canada. Vancouver would be 11 hr. from London, with almost eight hours cut from the present flying time. The airline has ordered six DC8s at a cost of £2 million each. They are the first powered by Rolls-Royce Conway bypass jets and the first which has been flying since July will be delivered in December.

Delhi-Moscow Frequencies

A four-day conference of representatives of Air-India International and the Soviet airline Aeroflot, which concluded recently in New Delhi, decided there should be two flights a week from April, 1960, by each of the airlines to cope with the volume of traffic between Delhi and Moscow. The conference also reviewed the working of the commercial agreement between the two airlines which at present operate weekly on the route.

B.E.A. Wants Helicopters for Scillies Route

British European Airways is planning to replace the de Havilland Dragon Rapides on its Lands End—Isles of Scilly service by helicopters in the summer of 1961. It requires a machine seating about 25 passengers and the possibilities would seem to comprise the Sikorsky S61, Vertol 107 and Bristol 192c. Trebling the passenger capacity of the aircraft maintaining the service must make the operation highly competitive with the sea service.

T.W.A. August Income Record

Trans World Airline's record passenger volume plus strict adherence to cost control produced a net income in August of $6,097,000 (£2,134,000), the highest net income, before taxes, of any single month in the company's history, it was announced recently. This compared with a net income of $4,156,000 in August, 1958. Some 38 per cent of T.W.A.'s domestic revenue passenger mileage in August was flown by the T.W.A. Boeing 707 fleet which produced average load factors of 90.6 per cent from the start of service on March 20 to August 31.

B.O.A.C. Flights for Returning Emigrants

The British Overseas Airways Corporation is offering special flights from London to Kingston for emigrants who wish to return to the West Indies. These flights, which will commence early in November, are scheduled to operate approximately once weekly and are being arranged in co-operation with the Commissioner for the West Indies. It is intended to use Douglas DC7C air liners on the route with 84 seats. The fares will be £85 per adult, £42 10s. per child (2-12 years) and £8 10s. for an infant, from London to Kingston. The baggage allowance is 40 lb. per person (adults and children) but no allowance is made for an infant.

Reduction in Cargo Rates

Among matters upon which agreement was reached at the traffic conferences of the International Air Transport Association were cargo rates. The normal rates on all the international routes were reconfirmed, with certain changes, but provision was made for drastic reductions in a series of specific commodity rates to encourage volume traffic over the North Atlantic. These would bring air cargo down to as little as 70 U.S. cents per kg. for shipments over 45 kg. in many commodity brackets. Additional weight breaks giving lower rates for larger shipments of general cargo were introduced on the North Atlantic and the North Pacific.

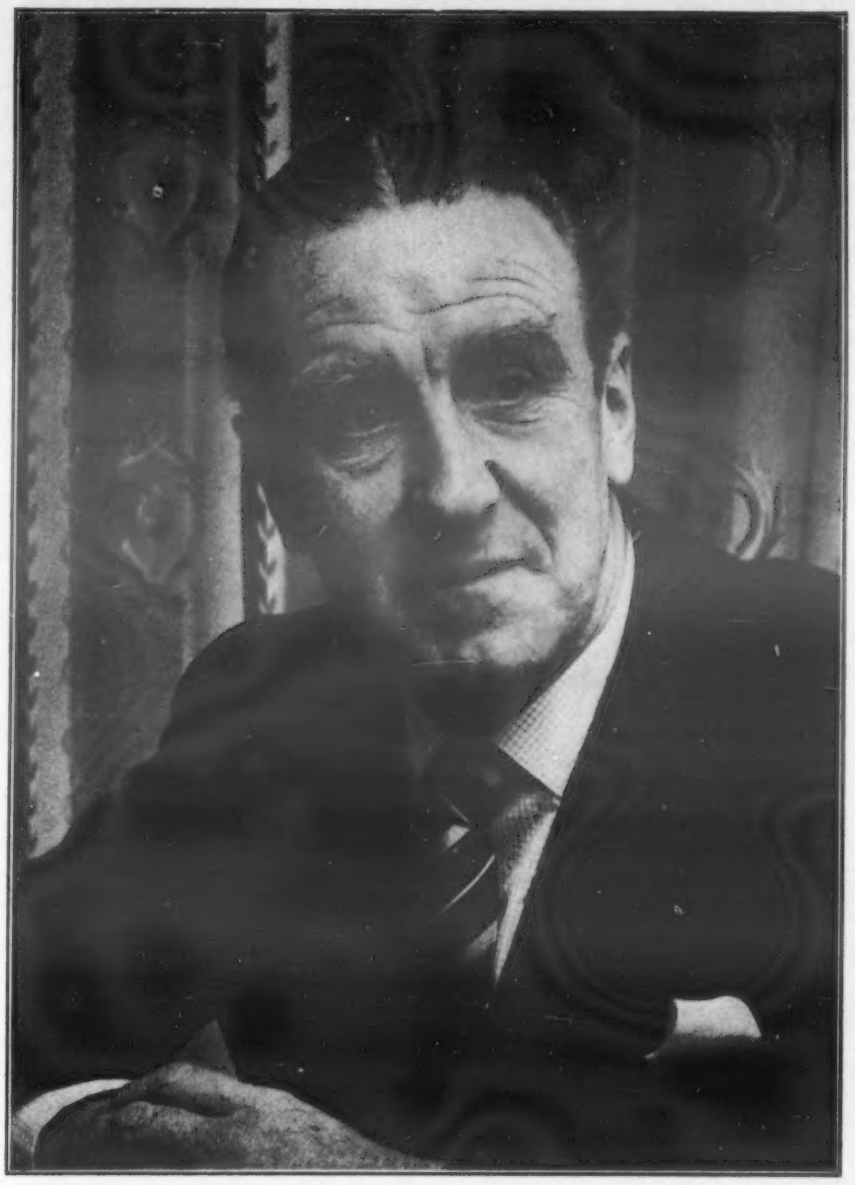
Aer Lingus Winter Schedules

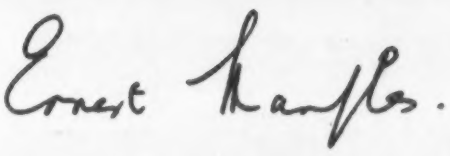
Aer Lingus services this winter will be more extensive than in any previous year. The winter timetable, which comes into operation on November 1, shows an increased number of flights between Dublin and London and Dublin and Manchester. There will be an increase of two return flights a week on both the Dublin—London and Dublin—Manchester routes. A total of 30 return flights (including seven B.E.A.) will operate between Dublin and London and 22 (including three B.E.A. and one K.L.M.) between Dublin and Manchester. While the frequency of services on other routes between Dublin and British provincial cities will be the same as last winter, the operation of Friendships will cut flying times by up to 25 per cent and provide more accommodation. All Continental services, with the exception of the seasonal services through Lourdes, will be retained during the winter. Apart from the Dublin—Paris and Dublin—Paris—Zurich—Rome routes all Continental services will operate through Manchester. There will be three flights a week from Dublin to Amsterdam, two to Düsseldorf and Copenhagen, one to Zurich and two to Brussels and Frankfurt. There will be three flights a week from Dublin to Paris with one continuing to Zurich and Rome.

British Airport Traffic in July

Air transport movements at United Kingdom aerodromes in July, 1959, numbered 47,763, an increase of 3 per cent compared with the same month last year; the number of passengers handled increased by 16 per cent to 1,183,553 and freight picked up and set down amounted to 30,802.3 short tons, an increase of 32 per cent. Airports in the London area as a whole showed an increase of 1 per cent in air transport movements and an increase of 16 per cent in the number of passengers handled. At London Airport there were 13,216 air transport movements, an increase of 1 per cent compared with July last year and 493,682 passengers were handled, an increase of 14 per cent. Most airports showed increases in passenger traffic over July, 1958, and amongst these were Gatwick by 55 per cent to 67,272, Edinburgh (Turnhouse) by 36 per cent to 21,686, Southend (Rochford) by 27 per cent to 43,799, Glasgow (Renfrew) by 21 per cent to 73,119 and Southampton (Eastleigh) by 20 per cent to 19,519. Other large increases in passenger traffic were at Bournemouth (Hurn) by 100 per cent to 5,494, Newcastle (Woolsington) by 48 per cent to 14,400, Portsmouth by 44 per cent to 1,633, Lympne by 39 per cent to 10,271, Leeds/Bradford (Yeadon) by 39 per cent to 9,182, Tiree by 30 per cent to 826, Inverness by 27 per cent to 4,136, Kirkwall by 21 per cent to 3,926 and Benbecula by 21 per cent to 1,912. Aircraft movements at Channel Islands aerodromes decreased by 266 to 7,684, but the number of passengers handled rose from 126,614 to 142,300.

MINISTER OF TRANSPORT





The Right Hon. ERNEST MARPLES, M.P.

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Appointed Minister of Transport in the new Government, Mr. Ernest Marples, M.P. for Wallasey, is among the most energetic and athletic members of the House of Commons. He regularly rises at 6 a.m. and in London finds a bicycle the easiest means of transport. He takes a special interest in finding things out for himself and not relying on hearsay. He has worked his stint in a coal mine; in the building trade; as a postman on his round; as a diver to inspect an obstruction at the bottom of a dock; and he has also fired on the locomotive of an express. He was born on December 9, 1907, the son of a Socialist working man, and was educated at Victoria Park Council School, Manchester, and through a scholarship, at Stretford Grammar School. In 1928 he qualified as an incorporated accountant and a few years later set up in business on his own. His first venture was the conversion of a Victorian mansion into flats; recent jobs have included the construction of power stations, docks, wharves, and tunnels, with individual contracts of over £1 million in value. He founded Marples, Ridgway and Partners, Limited, a civil engineering contractor. In 1939 he was a private in the London Scottish Regiment; during the war he was commissioned and he left the service with the honorary rank of captain. Having campaigned for a Socialist candidate at the age of 15, he later became a Conservative and he entered the 1945 Parliament as member for the Wallasey division of Cheshire. His majority was increased in 1950 and again in 1951, and after a setback in 1955, again at the recent election. In 1950 the Conservative conference passed a resolution calling for 300,000 houses a year. Mr. Marples wrote the party pamphlet explaining how it could be done. When Mr. Churchill (as he was then) formed his second administration in the autumn of 1951 Mr. Marples became Parliamentary Secretary to the Ministry of Housing and Local Government. In that capacity he took a prominent part in providing (in the way explained in his pamphlet) the 300,000 houses per annum promised by his party. After three years as Parliamentary Secretary to the Ministry of Housing, Mr. Churchill appointed him Parliamentary Secretary to the Ministry of Pensions and National Insurance, at the same time elevating the Minister of Pensions to the Cabinet. He resigned his appointment in December, 1955. In January, 1957, Mr. Marples was appointed Postmaster-General, in which office he has been responsible for many developments both in the automation of letter sorting and of the telephone system.

LONDON TRAFFIC

Need for a Single Authority

CODE FOR IMPROVEMENTS

REPORTING on its work during 1958, the London and Home Counties Traffic Advisory Committee says that there was a number of welcome physical improvements in London's road system during the year, but it cannot yet be said that such improvements are keeping pace with the growth of traffic and, as more vehicles are brought on to our overcrowded existing roads, so it becomes more necessary to regulate the use of these roads to the best advantage.

From its recent experience of the major and minor problems of London traffic the committee says it has reached certain conclusions on the principles which should govern the planning and control of the London road system during the next few years. Briefly these are:

(1) Physical improvements to the whole of London's major internal road system must progress with all speed. Increasing demands will be made on its capacity by the improvement of important routes joining it at the periphery. So that the value of improvements to these outside routes is not lost, particular care must be taken to ensure that their capacity is matched by London's internal radial and distributive roads.

(2) A thorough traffic engineering review of key intersections should be carried out so as to obtain the maximum improvement in their capacity by relatively simple means such as improved traffic signals, lane markings, improvement of kerb lines and amended traffic routeing.

(3) The roads must be kept clear for moving traffic. To this end, comprehensive schemes of parking control in central London are essential. These must be accompanied by public off-street parking facilities and facilities for loading and unloading off the main thoroughfares.

(4) Conflict between vehicles and pedestrians sharing the same movement areas in busy towns and city centres can be a frequent source of hazard and congestion and should therefore be avoided as far as practicable. In certain circumstances it may prove possible to achieve positive segregation, either laterally or at different levels, and as a matter of general principle possibilities of this kind should be kept constantly in mind by those responsible for the replanning of urban centres.

(5) Better discipline on the part of drivers and pedestrians alike and a stricter adherence to traffic regulations must be achieved and continuously enforced.

(6) If the above objects are to be attained, an adequate number of traffic engineering staff must be trained and brought into service.

Delays When Work in Progress

The increasing number of road improvement works which continue to be put in hand is encouraging, but the carrying out of these improvements must, of necessity, cause some delay and congestion while work is in progress. It is imperative that the authorities concerned should pay particular attention to this problem and to the carrying out of such works at night and at weekends.

Referring to the public inquiry held during the year on a proposal for a complete ban on loading or unloading at 23 important points, the committee now says that the further studies which it recommended at that time into the detailed traffic benefit of various types of bans on loading and unloading have been put in hand and a further report will be made when investigations are complete. For the meantime, it is emphasised that conflicts over the sharing of space on the highway between moving traffic and vehicles wishing to stop at shops for loading and unloading can best be avoided by a proper planning of shopping centres either so that they form a separate precinct divorced from main traffic routes, or, where this is not possible, so that adequate loading and unloading facilities are available off the highway.

Where existing shopping centres have grown up haphazardly along main routes, the conflict may eventually have to be forcibly resolved by some form of loading ban, but the proper solution for the future lies in good planning and intelligent re-development. Restrictions alone can do little more than give priority to those users of a multi-purpose road who most need it.

Comprehensive Parking Plans

There is a warm welcome for a number of comprehensive schemes put forward to regulate street parking in towns and shopping centres, notably at Gravesend and Watford. It is preferable, says the committee, from the point of view of efficiency in traffic control and administration alike that, wherever possible, proposals for waiting restrictions should be dealt with as part of a comprehensive plan for controlling the use of the streets themselves and for off-street car parking, over an area which is large enough to be regarded as a local traffic unit.

Increasing control of street parking is clearly essential; "we consider it the duty of the Government to ensure, even if this involves expenditure of Government funds, that complementary off-street accommodation is provided in central London on a scale proportionate to need," the report comments.

Covent Garden Decision Deplored

Of the decision by the Minister of Agriculture, announced in the House of Commons on June 11, 1958, that Covent Garden market should not be entirely removed from its present area, although he contemplated provision elsewhere for storage premises associated with the market, coupled with increased efficiency and a reduction in size, the committee says it much regrets that this decision has been found necessary. Those responsible for planning the future market, as well as those responsible for traffic conditions in the area, are now confronted with a challenge which it will require all their ingenuity to meet, it says.

Responsibility for traffic matters in the London traffic area is divided among a number of bodies, each of which may have some statutory powers or require to be consulted about proposals to deal with traffic problems. At least four bodies are involved in every traffic matter affecting London, namely the Minister of Transport, who is responsible for making the regulations required, the Advisory Committee, whose duty it is to advise the Minister, the police who must enforce the regulations, and the local authorities concerned, who will erect the traffic signs and carry out any works involved. In addition, the London County Council and the Metropolitan Traffic Commissioner, because of their particular powers and functions, may also have to be consulted on any measure aimed at improving traffic flow. This divided machinery, while it allows all points of view to be carefully investigated, is cumbrous and slow.

The committee feels that there is a real need for a reorganisation of the present responsibilities and functions exercised by the various bodies and authorities which would result in better co-ordination and smoother administrative machinery permitting greater expedition in the handling of the complexities of London traffic, over an area which now extends from Sevenoaks to St. Albans and from Slough to Gravesend.

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TWO-TON TIPPER

(Petrol or Diesel)

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Operating Efficiency
Low loading height saves handling time and energy. Full-forward control, with new wide-vision cab over front springs and power unit forward of front axle provides exceptional bodyspace and balanced load distribution.

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Ample power is provided by either a 4-cylinder petrol or diesel engine, whilst chassis, body and cab are all built to endure the most gruelling working conditions.

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Full-forward control, with over 11 ft. bodyspace.
Bodywork cleared of obstructing wheel arches.
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Exceptional manoeuvrability; 30ft. turning circle.
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Comfortable all-steel cab with panoramic windscreen.

A ROOTES PRODUCT — BUILT STRONGER TO LAST LONGER!

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START ON STAINES BY-PASS

First Contracts Awarded

As announced in our issue of October 17, work began on the Staines by-pass on October 19; Mr. G. Beresford Craddock, M.P. for Spelthorne, formally inaugurated pile driving for the Thames bridge at Bell Weir in a ceremony held close to the Runnymede roundabout.

The consulting engineers for the Bell Weir bridge are Messrs. C. W. Glover and Partners, who have worked in association with Mr. George Stewart, F.R.I.B.A., consulting architect. It has been decided that the bridge should retain the form and elevation designed by the late Sir Edwin Lutyens who was responsible for the design of a number of buildings in the Runnymede area. The spandrel facing will be red brick to contrast with the Portland stone along the line of the balustrade and the white arch rings below. The design has been approved by the Royal Fine Art Commission. A £458,856 contract has been let to W. and C. French, Limited, to complete the bridge in 21 months.

Route of By-pass

The by-pass itself will be about two miles long and will also have twin 24-ft. carriageways—a map showing its route appeared in MODERN TRANSPORT of October 25, 1958. Starting at Billet Bridge on A30, on the north-eastern outskirts of Staines, the new road will run north of the town to Wraysbury Road (B376) before turning southwards over the Thames to rejoin A30 at the Egham roundabout, which will be enlarged in such a way that a flyover can be built there in the future. The by-pass will be constructed on embankment to keep it from flooding.

In addition to the Bell Weir Bridge, there will be bridges to carry the road over Moor Lane, the Western and Southern Region railway lines, Wraysbury River, and the River Colne. Four pedestrian subways are included in the scheme, two at the junction with Wraysbury Road, where a roundabout will be constructed, one on Staines Moor and the fourth immediately to the east of the River Colne. Between the Egham roundabout and Wraysbury Road the by-pass will follow the line of the proposed North Orbital Road, which when completed would form a semi-circle round the north of London from south of the Thames at Staines to the Dartford—Purfleet Tunnel. The roundabouts at Egham and at Wraysbury Road have therefore been designed to allow for the construction of flyovers and provision has been made for the widening of the carriageway between these points, should future traffic make it necessary. The entire cost of this trunk road scheme will be met by the Ministry of Transport and Civil Aviation.

The roadworks have been designed for the Minister by the agent authorities concerned, Middlesex County Council (county engineer, Mr. H. S. Andrew, M.I.C.E.) for the section north of the Thames and Surrey County Council (county engineer, Mr. D. S. Samuel, M.I.C.E.) for the section south of the river. The Middlesex County Council has been authorised to accept the tender of Richard Costain, Limited (£861,586) and it is intended that a separate contract for the Surrey section will be let very shortly. In addition the Middlesex County Council will be carrying out an extension to the by-pass from Billet Bridge to Ford Bridge on the Staines—Kingston road (A308). This will be about 1½ miles long and will give access to the trunk road by-pass for traffic from south and south-west London, which is particularly heavy in the summer. This new county road will also have two 24-ft. carriageways and will be built on embankment throughout. The Ministry has made a grant of £564,000 towards the total cost of the scheme, which is over £3½ million. Work is expected to start early in 1960.

B.T.C. TRAFFIC RECEIPTS: PERIOD NO. 10—1959

	Four weeks to October 4, 1959			Aggregate for 40 weeks		
	1959	1958	+ or —	1959	1958	+ or —
	(£ thousands)			(£ thousands)		
PASSENGERS						
British Railways	10,831	10,397	+ 434	110,853	110,222	+ 631
London Transport						
Road passenger services	4,437	4,344	+ 93	42,046	35,992	+ 6,054
Railways	1,794	1,808	— 14	17,942	18,766	— 824
Provincial and Scottish Buses	5,003	4,878	+ 125	47,842	47,284	+ 558
Ships	726	658	+ 68	6,707	6,155	+ 552
Total Passengers	22,791	22,085	+ 706	225,390	218,419	+ 6,971
FREIGHT, PARCELS AND MAILS						
British Railways						
Merchandise and livestock	7,895	7,896	— 1	73,666	79,309	— 5,643
Minerals	3,534	3,153	+ 381	32,989	34,561	— 1,572
Coal and coke	7,939	8,631	— 692	82,405	93,784	— 11,379
Parcels, etc., by coaching train	4,325	4,257	+ 68	40,818	40,303	+ 515
Total Freight, British Railways	23,693	23,937	— 244	229,878	247,957	— 18,079
Others	4,691	4,379	+ 312	42,233	41,241	+ 992
Total Freight, Parcels and Mails	28,384	28,316	+ 68	272,111	289,198	— 17,087
Aggregate	51,175	50,391	+ 774	497,501	507,617	— 10,116

Comparisons are affected by the London bus strike from May 5 to June 20, 1958

The NEW

Firestone

SUPER MILEAGE LUG

THE DUAL-PURPOSE REAR-WHEEL TRACTION TYRE with all the features you're demanding

POWER BITE TRACTION
Be it on main roads, by-roads, or no roads the Super Mileage Lug tyre's cross grooves, heavy shoulder lugs and circumferential ribbing will combine to give maximum bite and traction and long safe wear. The dual-purpose Super Mileage Lug helps reduce mechanical maintenance too. Many so-called dual-purpose tyres slip and spin causing undue strain on engines and transmissions. But with the POWER BITE TRACTION of the Super Mileage Lug, this profit-draining problem is practically eliminated.

MORE SKID DEPTH
Deeper non-skid pattern than in ordinary highway tyres gives thousands of miles of sure-footed highway hauling.

SUPER STRENGTH BODY
Super Gum-Dipped, Tension-Dried cords make a really strong, durable body which gives big dividends in tyre mileage and vehicle efficiency.

DRIVE SAFELY

OUTPULLS AND OUTLASTS any tyre of its kind.
Specially designed for on-and-off-the-road service where a large part of the work is off-the-road and particularly severe.

EXPERIENCE COUNTS *45 Factories throughout the world. Firestone total sales exceed £1,000,000 per day.*

RAILWAY PARCELS MECHANISATION

Handles Large Mail Order Traffic

HANDLING of passenger train parcels traffic has been partially mechanised at Bradford Forster Square Station on the North Eastern Region of British Railways, for which purpose two fork-lift trucks and 64 live stillages of the box type have been brought into use. Passenger train parcels traffic has always been heavy at Bradford but, in recent years, it has assumed greatly increased proportions largely through developments at Grattons Warehouses, Limited, one of the principal mail order houses in the country.

This year, to date, that company has dispatched an average of over 7,000 packages a day—41 per cent more than in the same period in 1956. Altogether, the number of parcels forwarded this year by passenger rail service from Bradford has averaged 10,000 a day. With the busiest season still to come, some increase in man and vehicle power would have been inevitable but for the introduction of mechanical handling arrangements. The mail order company has two main dispatch points, warehouses at Ingleby Road and Wibsey. At Wibsey, hand loading of parcels into the collection vehicles involved a carry of approximately 50 ft. Now, by mechanical handling, the parcels flow directly from the dispatch benches into the stillages which are then wheeled by hand into the vans. Loading time has been cut by half an hour. The time saved in loading and unloading has increased the journey capacity of the existing collection fleet by 50 per cent. A system of primary sorting has been introduced and is operated by railway personnel employed in the warehouse.

At both Forster Square and Exchange stations, fork-lift trucks have been provided for transferring the loaded stillages to the platforms and returning empty stillages to the vehicles. At Exchange Station the truck is a pedestrian controlled Lansing Bagnall, but at Forster Square, which is the main rail dispatching point, a Scott Electric rider-controlled truck has been provided for quicker movement among the sorting barrows.

The stillages are 4 ft. 6 in. long by 3 ft. 6 in. wide by 5 ft. high and, being fully live, can be easily manoeuvred by hand both in the station premises and in the Gratton warehouse. The packages vary greatly in shape and size but the stillages load an average of 35, and four stillages are accommodated on one ordinary parcels collection van. They are so constructed as to be capable of being linked together and moved about in trains.

A feature of the parcels working in Bradford is the heavy cross-town cartage between Exchange and Forster Square stations. An average of 3,000 parcels a day has to be transferred and in this also the use of these mechanical handling appliances has achieved a much quicker turnround of vehicles. Later, secondary sorting at the dispatch warehouse is to be introduced to reduce still further the handling at the stations. Accountancy arrangements are streamlined by virtue of an agreed flat rate arrangement under which the fixing of normal ledger labels has become unnecessary. Each package as it leaves the dispatch bench and before being loaded into its appropriate stillage, is checked against its consignment note entry. The only franking necessary is by means of hand-operated rubber stamps.

Railway staff prepare packages for dispatch from Bradford mail order warehouse—checking, franking and sorting to stillages; right, the secondary sort from stillages to hand barrows going on at Forster Square Station, in readiness for passenger train dispatch

Cafeteria at St. Pancras

SELF-SERVICE IN GAY SURROUNDINGS

IF there are still any who are unaware of the enormous strides made in popular catering at railway stations during the past few years, a visit to the new self-service cafeteria, named "The Midland," at St. Pancras Station, could serve as a salutary lesson. Here the most humble patron intent only on a cup of tea and a bun can enjoy comfort and surroundings undreamed of in days of yore—and the tea and bun are guaranteed as fresh as the decor.

The "Midland" cafeteria, with the adjoining "London Bar," completes a range of catering facilities at St. Pancras which it would be hard to better at the present time. "The Shires," a first-class restaurant, was opened a year ago, the "Midland" seats 100 and the "London Bar" accommodates 40. There are many features new to railway station catering in the cafeteria, some of them designed by the British Transport Catering Services to meet special requirements and for which purposes equipment was not available. It will provide grills to order, hot joints and fish, cold meats, sandwiches and cakes at popular prices.

There are two self-service counters, both in the form of U-shaped recesses leading off the seating area. This has the effect of reducing extraneous noise and clatter to those who are at the tables. One area, labelled the "servery," dispenses cooked dishes, cold items and beverages, while the

(*Continued on page* 12)

Kitchen ovens behind the scenes at the new "Midland" cafeteria at St. Pancras and, right, the main self-service counter. Air conditioning is applied throughout

General view of the ultra-modern cafeteria showing twin serving recesses on right

75 BRUSH MAIN LINE DIESELS
For British Railways

This further order for 75 Brush type 2 Diesel Electric Locomotives for British Railways comprises the largest single order placed with a private firm by the British Transport Commission for Diesel Electric Locomotives and will all be supplied before the end of 1960. The Brush type 2 is powered by Mirrlees JVS 12T Diesel Engines of 1365 H.P.

Many in service on Eastern Region.
20 ordered 16th November, 1955.
40 ordered 3rd July, 1958.
20 ordered 3rd December, 1958.
Now 75 more.
Total 155.

BRUSH ELECTRICAL ENGINEERING CO LTD LOUGHBOROUGH, ENGLAND (Member of the Hawker Siddeley Group)
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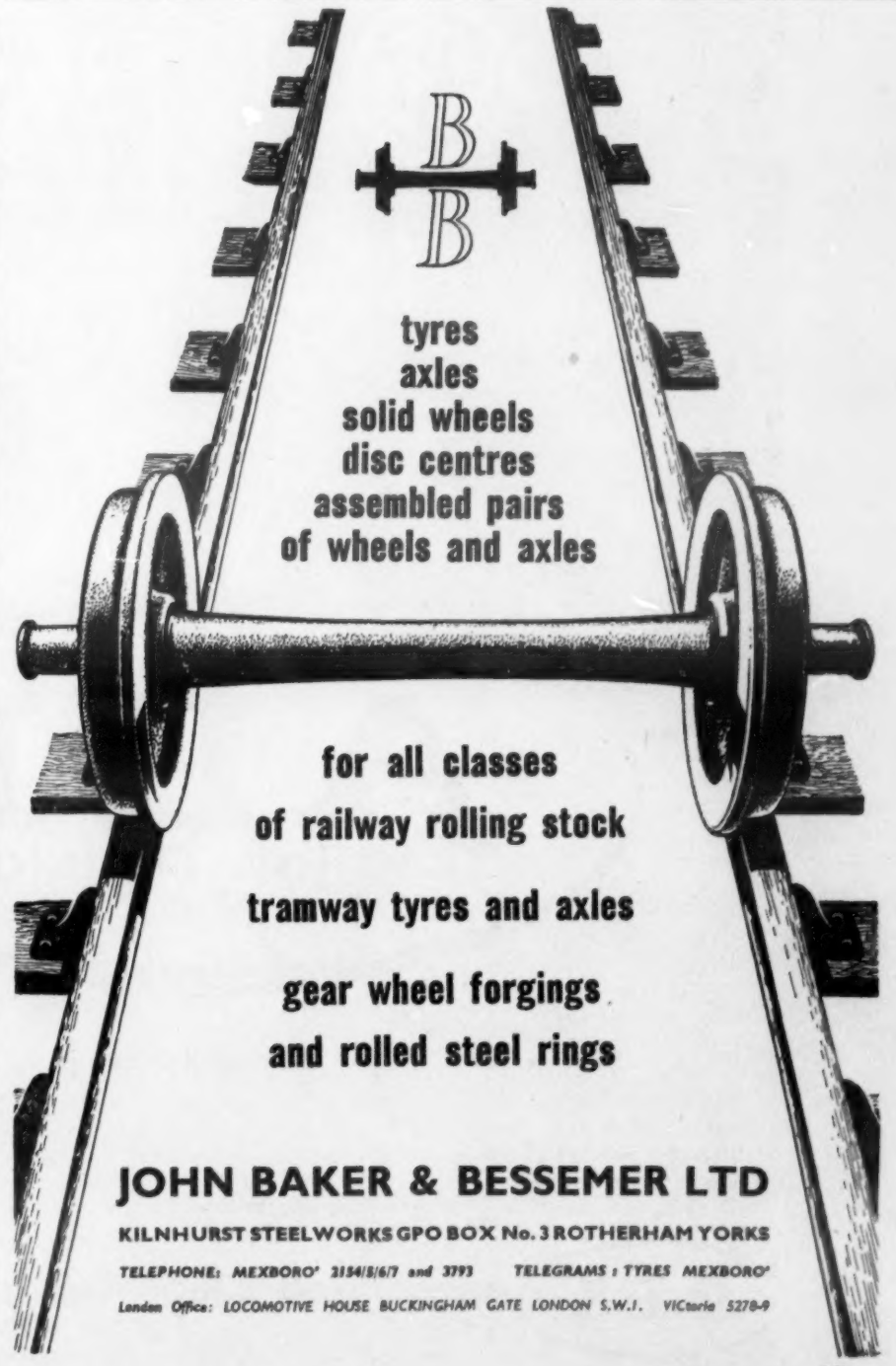

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LETTERS TO THE EDITOR

N.U.R. and Transport Policy

SIR,—Your review of the N.U.R.'s statement of policy on transport distorts what we had in mind and what in fact we wrote in the booklet.

Our purpose was to present the case for planned transport and to show that competition had been condemned not only by expert and impartial authorities but by fact. Throughout the booklet we were extremely careful to stress that the interests of the community should predominate over those of private groups. The position of railwaymen was brought in to illustrate the unfortunate consequences of mistaken transport policies. A long section was devoted to describing the unfair financial burdens placed on nationalised transport and the folly of the disintegration policies of Conservative Governments. To support our case we quoted from several authorities, including your own journal. As you seem to have forgotten what you said in 1952, may we remind you that your view then was, ". . . however much one may try to think otherwise and however passionately one may believe in the ideal of private enterprise, there is no escaping the fact that co-ordination of transport is essential to the modern state."

You described the Conservative proposals as "fantastic" and stressed that "opinion both in this country and abroad has decided that co-ordination is the only means of providing remunerative transport." We hold that view. But from your article of October 10 it would seem that is now less important. If you do not think that then it is very strange that you should ignore three-quarters of our booklet which argues the case for co-ordination and concentrate on the first paragraph of our introduction which referred to the situation of railwaymen at the present time.

Irrational Cutting of Services

You also ignore our carefully argued statement on the need to consider the use of railways in the light of modern technical developments and not in the light of the prejudices of administrations which have shown clearly that they favour an expansion of road transport without proper regard to the effect on the national economy and interests as a whole. Why did you not also state in your review that we accepted some changes as necessary but that changes brought about by unfair pressures of private interests on a publicly defenceless state corporation were leading to irrational cutting of services? This view has support from the impartial P.E.P. pamphlet "Paying for our Railways."

Your charge of special pleading on behalf of railways and railwaymen is surely disqualified by our plan to co-ordinate different forms of transport including in that arrangement a large road haulage collection and delivery service and other road services for certain traffics. We also carefully stated that control of road transport was designed to make the best use of our existing transport facilities—not in the interests of railways or railwaymen but in the interest of the nation as a whole. Deny if you can that there is at present considerable waste of transport resources. In our view, both railway and road transport facilities are wasted through senseless competition.

If we advocate that the bulk of long-distance freight traffic should go by rail we do so for the simple technical reason that that is the most economical way to carry it. We do not accept the view that consumers should be completely free to do what they like if what they like clashes with the public interest. But you can read our statement from now till Doomsday and you will not find a word about limiting the freedom of individuals to own their own means of transport.

You accuse us of being out of date. If advocating planned transport, using facilities in the most economical way, and based on public service is out of date we plead guilty. On the other hand, may we suggest that in these days of highly organised technical processes in industry it is surely incongruous that transport, which is so vital a part of the modern state, should still be unplanned, inefficient and appallingly wasteful of resources.

You did less than justice to the real theme of our booklet.—Yours faithfully,

S. F. GREENE,
General Secretary,
National Union of Railwaymen.

Unity House, Euston Road, N.W.1.

Flares on Railways

SIR,—Colonel W. P. Reed, Ministry of Transport inspector, has now reported on the train crash between Urmston and Trafford Park in December last year (MODERN TRANSPORT, October 10). On that occasion an express from Liverpool to Manchester collided with the jib of a contractor's crane and its load of concrete which had fallen across the line. The train was derailed and then struck by a Manchester—Wigan train travelling on the other track. A man who had got off the first train was killed by the Wigan train, and 37 other passengers and enginemen of both trains were injured.

Colonel Reed said that the accident gave grounds for reviewing the advisability of adopting the flare on British Railways. If the crew of the Manchester-bound train had been in possession of flares, the driver of the Wigan train would have been warned of danger ahead and would at least have been able to whistle and probably to reduce speed.

Lesson of Wilmslow

Some years ago, after the disaster at Wilmslow when one express ran into the back of another which had stopped due to the communication cord having been pulled, I pointed out that the crash probably would not have occurred had the crew of the stopped train been equipped with flares. The following train did not see the rear light of the stopped train until too late because of a bend in the line and an overbridge. The reflection of a flare would have been seen in time to enable the driver to pull up.

Flares are in universal use in North America. They are extremely bright and can be seen from a considerable distance, even in daylight, and all train crews are equipped with them. In view of what Colonel Reed had to say, it is apparent that train crews here should be similarly equipped. The cost would be comparatively small and safety would be greatly enhanced—especially on the occasions when there was not time to run half a mile along the track to place detonators.—Yours faithfully,

G. RICHARD PARKES.

The Thorns, Park Road, Hadfield, Manchester.

ST. PANCRAS CAFETERIA

(*Continued from page* 11)

"griddle" serves fried and toasted dishes and a new speciality, grilled Angus steak in toasted bun. For these a special griddle range is incorporated.

The main contractor for the cafeteria and bar was Marshall Andrew and Co., Limited, 31 Queen Anne's Gate, S.W.1. Among individual suppliers of equipment were: W. M. Still and Sons, Limited, 29-31 Greville Street, E.C.1 (stainless steel counter, tea equipment, quick-cook unit); Connolly Brothers, Limited, Charlton Street, N.W.1 (leather for seats in London bar); and Semtex, Limited, Brighton Road, Croydon (floor finish).

TRAMCAR HISTORY

Preserving a Feltham

AT the end of September, just over £100 was needed to secure the preservation of an ex-London Feltham car, to be purchased from Leeds City Transport by a group of South London transport students. Donations had reached the encouraging figure of £94, and a further £50 is available on loan, but the combined cost of purchase and transport is estimated at about £250. In view of the progress of the scheme to date Leeds City Transport has agreed to keep the car selected until the end of November, by which time the other Leeds trams will have been removed by the scrap merchants. If the money has not been raised by

Feltham car 2099 (now Leeds 501) running through Middleton Woods with a Light Railway Transport League party in 1950

then, the last Feltham may follow. That outcome would be unfortunate after half the sum necessary has already been found.

The car chosen by the Fund is Leeds No. 501, formerly London Transport 2099 and originally M.E.T. 355. This was the first Feltham to run in Leeds, being chosen from amongst the best of the class as a sample. From October, 1949, to August, 1950, No. 2099 ran in Leeds with her London number, and was only renumbered when the other Felthams began to arrive. If the scheme succeeds, the car will be transferred on permanent loan to the Tramway Museum Society's new line at Crich, and eventually restored to London Transport livery as used when the car ran in South London.

Future urban transport students, especially in London, will not forgive the present generation if this last-ever chance to preserve a London tram of a noteworthy design is allowed to pass, especially in view of the support already shown. We therefore recommend this praiseworthy scheme to all interested readers, and donations should be sent to the Feltham Fund at 25 Kempshott Road, London, S.W.16.

PAINT MANUFACTURE

Vulcan Products and Blundell Group

AN announcement by Blundell, Spence and Co., Limited, paint manufacturer, states that unification of the parent company and its two wholly-owned U.K. subsidiaries, Vulcan Products, Limited, and John J. Bowater, Limited, is to be achieved from November 1, 1959. The two subsidiaries will cease to trade and their business, the manufacture and distribution of transport and industrial finishes, will be carried on as Blundell, Spence and Co., Limited, Industrial Paints Division.

Decorative finishes, which include Pammastic plastic emulsion paint and Pammel gloss finish, will continue to be manufactured at the Hull factory. Production of industrial finishes will be carried on at Slough. The term "a Vulcan finish," well known for many years in the transport and industrial fields, will be retained; it has been incorporated in new designs on vehicles and paint containers. The main branded products of the industrial division will be One-Coat Glossex, Vulflo and Vulfast vehicle finishes, in addition to numerous industrial finishes produced to bulk users' specifications.

This marks another step in the consolidation and development of Blundell's transport and industrial business; this began in 1949 with the acquisition of John J. Bowater, Limited, of West Bromwich. That company was founded in 1856 for the manufacture of machinery oils, greases and soluble oils, and began production of industrial paints and varnishes half a century ago.

Vulcan Products, Limited, which began in 1927 in a small private garage in Brixton, was acquired by the Blundell group in 1954 as a well-established business, with works on the Slough Trading Estate. With its One-Coat Glossex Vulcan Products was first in the field, seven years ago, with a transport finish which saved time, labour and money. Last year the production of Vulcan products and John J. Bowater was integrated at Slough. Their redesignation now as the industrial division means that the full resources of the 148-year-old Blundell organisation will be available to maintain and develop the good reputation of each.

SCHOOL OF WELDING TECHNOLOGY

Aluminium Course

THE Institute of Welding, in conjunction with the Aluminium Development Association, has arranged a course of instruction on welding design and construction in aluminium and its alloys. The course will include welding methods, material selection, metallurgical considerations, engineering features, inspection and testing, typical applications, and recent developments. Lectures will be combined with discussions, film shows and visits to works and laboratories. Lecturers will be recognised experts in the fields covered.

The course will be held at the Institute's headquarters from November 9 to 13, 1959, inclusive, and the fee, which includes transport to works visits, is 18 gn. for non-members and 13½ gn. for individual members and staffs of industrial corporate members only. Students are expected to have received full engineering or metallurgical training. The number that can be accepted is limited and application should be made without delay to the Institute of Welding, School of Welding Technology, 54 Princes Gate, London, S.W.7.

New name

The traction interests of Metropolitan-Vickers and British Thomson-Houston have now been integrated in the new Traction Division of AEI.

Combined resources

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NEW PASSENGER FARES

On B.R. and L.T.E. from November 1

IN July the Transport Tribunal authorised the British Transport Commission to raise the maximum second-class fare on British Railways from 2d. per mile to 3d. per mile with effect from August 1. The Commission delayed taking advantage of this authority until after the holiday season; now second-class ordinary fares on British Railways will be increased by ½d. per mile on November 1 next. Even this amount will not be applied in full to journeys over 200 miles. Increases are also to be made in the ordinary rail and road fares in the London area and in early-morning fares and in season-ticket rates generally.

Off-peak Attraction

At the same time the B.T.C. is introducing a new concession to encourage rail travel in the London area outside peak hours. Daily and five-day off-peak tickets, which will be substantially cheaper than day return tickets and weekly season tickets respectively, will be available for inward travel from stations in the London area 10 miles or more from the central area all day except during the morning peak and for return at any time except during the evening peak. The B.T.C. believes that the new off-peak concessions will be important because:

Apart from the personal discomfort to passengers who necessarily have to travel at peak times to get to work and return home after work, peak travel demands considerable quantities of rolling stock—and the staff to operate it—which is fully used at peak hours but little, if at all, during the rest of the day.

The Commission hopes its decision to offer concessions, which will enable people to travel at off-peak times at rates even lower than those of the present weekly season tickets, will persuade more passengers to avoid rush-hour journeys.

Both daily and five-day off-peak tickets will be available on Monday to Friday inclusive for one return journey a day for distances of 10 miles and over from all British Railway stations in the London area to London termini and in many cases to London Transport stations in the central area by trains arriving at B.R. London termini not later than 8 a.m. or leaving starting points after 9.30 a.m. These tickets will also be issued from London Transport stations 10 miles or more from the periphery of the central area (broadly bounded by the Circle Line) into Central London, except for journeys starting between 7.30 a.m. and 9.30 a.m. The tickets are not available for return journeys either on B.R. or L.T.E. between 4.30 p.m. and 6.30 p.m.

New Rates

The charge for the five-day off-peak ticket will work out at nearly 20 per cent less than the weekly season ticket. The daily off-peak ticket will be cheaper than the day return ticket. This is the first major attempt of its kind to encourage London passengers who can do so to travel away from the peak periods. The scope of the experiment at present is limited, but it is hoped that experience will justify extension. Examples:

Mileage	*New weekly season*	*5-day off-peak*	*New B.R. day return*	*Daily off-peak*
	s. d.	*s. d.*	*s. d.*	*s. d.*
10	16 9	13 9	3 6	3 2
15	21 9	17 9	5 0	4 6
20	26 6	21 6	6 4	5 5
35	36 0	29 3	10 10	8 8

The general increase in B.R. ordinary fares, except on the L.T.S. Line, will be broadly from 2d. to 2¼d. per mile for second class and from 3d. to 3¾d. per mile for first class, up to 200 miles. For the next 100 miles after the first 200, second class will be 2.1d. a mile. After the first 300 miles the second-class rate will remain at 2d. There will be a certain amount of rounding-up to the nearest 3d., 6d. or 1s., according to distance. Children's half-fares will be rounded-up to the nearest 1d. Thus London to Brighton will rise from 8s. 6d. to 9s. 9d., but the increase for Aberdeen will be only 87s. 4d. to 93s.

On London Transport road and rail services and the L.T.S. Line of the Eastern Region, ordinary single fares at 3d., 4d. and 5d. will not change. These fares represent 64 per cent of L.T.E. passenger journeys. The 7d. fare will remain, but a few London Transport 6d. fares which were not raised on August 23 will now be increased to 7d. At 8d. to 2s. 1d. fares will be increased by 1d.; 2s. 2d. to 3s. 2d. fares by 2d.; 3s. 3d. to 3s. 11d. by 3d.; 4s. and 4s. 2d. by 4d.; and 4s. 3d. to 4s. 8d. by 5d.; there will be higher increases for longer journeys up to a maximum of 9d. on fares from 9s. 2d. upwards. Early-morning road fares will be increased by L.T.E. by 3d.

There will be a common scale for early-morning fares on British Railways and London Transport Railways; at 6 miles the 1s. 9d. fare will rise to 2s. 1d.; at 30 miles the 4s. 5d. fare will go up to 5s. 5d.

Season Tickets

A new season ticket scale will be set up, common to British Railways and London Transport Railways. There will be increases in second-class monthly season tickets ranging in the London area from about 4 per cent at two miles to about 15 per cent at 24 miles and over. The rate for weekly season tickets will remain approximately a quarter of the monthly rate, plus 10 per cent. Season tickets for three months will continue to be three times the monthly rate, less 10 per cent; and those for longer periods pro rata.

PERKINS EXTENSION

Major Reorganisation for Increased Output

PLANS for a £285,000 extension designed to permit a major reorganisation of its main factory at Peterborough have been announced by F. Perkins, Limited. Erection of three additional bays at the company's big Eastfield factory, which employs 6,000 people and is considered one of the most up-to-date engineering plants in Europe, will be linked with a development scheme involving additional plant and materials-handling facilities. Work is to start soon and will be completed by the middle of 1960.

Improved Efficiency

The whole scheme is designed to improve operating efficiency and reduce wasted effort on material and process handling, while increasing output. It will enable the company to continue comfortably to meet the requirements of world-wide customer demand in addition to that of the Massey-Ferguson group, with which Perkins is now connected. A measure of recent substantially increased export sales by Perkins Engines, Limited, is the rise of 45 per cent during the first six months of 1959 compared with the same period in 1958—a figure which excludes Perkins engines produced for Massey-Ferguson. An indication of the effort to be made to maintain delivery schedules is that with peak production this will reach about 400 engines a day, it is planned to reach 700 a day in 1960.

Of the three new bays, which will increase factory space by about 80,000 sq. ft., two will be used for storing components and finished engines and the third for transport and handling purposes. This will release for production operations the space adjacent to a wide central roadway at present used for transport and unloading. Most of the transport now using the central roadway will in future use the new transport bay, whence materials will enter the factory proper on various handling devices through small doors "sealed" by heated air curtains.

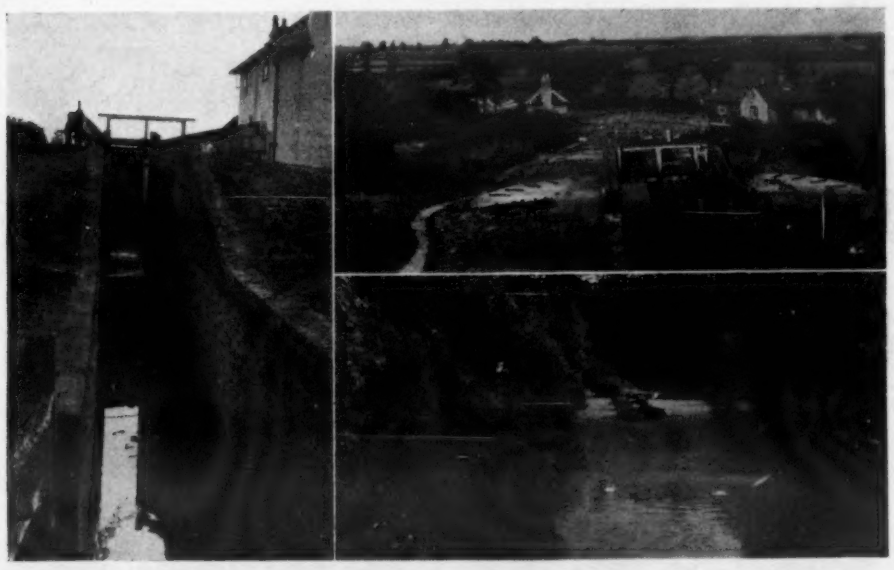
C-LICENSED TRANSPORT

(*Continued from page 7*)

show up favourably in the extent to which they are loaded on the return journey. But, says the report, empty running is not in itself either a test of efficiency or evidence of inefficiency. The highest standard of service is not necessarily achieved by the lowest empty mileage. Once again, speed of service and certainty of timing matter above all else to the trader. If the necessary standard of service is not available elsewhere but can be achieved by the operation of a trader's own vehicles, that is the most efficient and must, taking all factors into consideration, be the most economic service, even if it means some empty running. The return loading results are summarised in greater detail in Table III (on page 7). This table does not distinguish between shorter and longer hauls.

It is not possible to determine from the information obtained how many vehicles are used regularly on journeys beyond 75 miles radius and how many do so only occasionally, but it is shown that 17 per cent of the vehicles may travel beyond 75 miles. The proportion of standard load-carrying vehicles which may exceed this distance is above average (25 per cent of those in the sample) while that for specially fitted or constructed vehicles is below average (12 per cent). The average of 17 per cent which may be operated beyond 75 miles does not apply evenly to the various trades and industries. For example, in the food, drink and tobacco group, which accounts for nearly half the vehicles in the survey, only 10 per cent may go beyond 75 miles. It is known that 78 per cent of vehicles which may operate beyond 75 miles return partly or fully loaded or are on circular delivery.

Worthington-Simpson, Limited, announces an addition to its already extensive range of Monobloc centrifugal pumps. The new range is designated type DO and comprises open-impeller pumps designed to handle slurries, paper stock, liquids containing small solids and viscous liquids as well as clear liquids. Capacities of from 10 to 360 g.p.m. and heads up to 86 ft., depending on capacity, are covered by the new range.



Owing to the dry summer there was not sufficient water to operate the famous flight of locks at Foxton on the British Waterways route from Norton Junction to Leicester during September; the lower right view is of the foot of the 1 in 4 inclined plane in which boats were conveyed in caissons from 1900 to 1909 by the Grand Junction Canal Company

Another chapter in the Leyland Legend

10 years and nearly half a million miles without a major engine overhaul

Once again figures prove the supremacy of the Leyland engine.

In July 1949, when Sheffield Transport Departments' No. 13 bus—fitted with a Leyland 600 engine—went into service, it was decided that no maintenance on the crankshaft or main and big end bearings would be undertaken until failure occurred.

Ten years later, after operating 468,000 miles on stop-start city schedules, the engine was dismantled. The measurements of crankshaft wear recorded were only ·004″ max. on journals and ·001″ max. on pins. New cylinder sleeves and pistons were fitted every 150,000 miles and a satisfactory oil consumption was maintained.

Some engine . . . some record! But one which may soon be beaten. Sheffield have many other Leyland engines which have already topped the 300,000 miles without crankshaft attention . . . and it's our guess that their figures will eventually prove even more impressive.

Leyland for longer life & greater power

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LEADERSHIP IN LUBRICATION

IMPORTANT CONTRACTS

Repeat Orders for DC-8

SPEAKING on the occasion of the opening of the International Air Transport Association meeting in Tokyo earlier this month, Douglas Aircraft Company president, Mr. D. W. Douglas, junior, revealed that three international airlines and one domestic operator had already placed repeat orders for DC8 jet transports, only one month after first entry of the type into commercial operation with two American companies. United Air Lines is reported to have increased its initial order for 30 machines to 40, while K.L.M. contracted to add four aircraft to an existing order for eight. Other unannounced fresh contracts under negotiation are expected to increase by 25 aircraft the current firm-order total of 143.

Wapping Underground Station

London Transport has placed a contract for reconstruction of the above-ground part of the Underground station at Wapping on the East London Line with Whyatt (Builders), Limited. The contract includes the restoration of the lift machine room and the top and sides of the war-damaged lift house, as well as the provision of a new station entrance and ticket office, and is valued at approximately £12,900. Work was due to start on October 19 and should be completed in about a year.

Ashok Leyland Order Book

A contract for 120 Leyland Comet chassis valued at over £300,000 has been placed with Ashok Leyland, Limited, Madras, by the Central Public Works Department, Bombay State. Of forward-control type with a wheelbase of 9 ft. 10 in and powered by 100-h.p. Leyland 0350 diesel engines, they will be equipped with hydraulic tipping gear and dumper bodies of 5 cu. yd. capacity. They are for use in land reclamation and irrigation projects in Bombay State under the second Five Year Plan.

Leyland Order Book

In the past three weeks Leyland Motors, Limited, has contracted to supply over £220,000 worth of single- and double-deck buses to British municipalities and bus companies. The two largest orders are both repeats for the rear-engined Leyland Atlantean double-deck bus chassis. Ribble Motor Services, Limited, has ordered another 24, bringing its total number of Atlanteans ordered to 120. The other order has come from Western Welsh Omnibus Co., Limited, for another 19 Atlanteans, bringing that company's total to 31. Western Welsh has also ordered 12 underfloor-engined Tiger Cub single-deckers.

New London Midland Region Contracts

The London Midland Region of British Railways (London Midland Region) announces the following contracts:

Leonard Fairclough, Limited, Adlington, for diesel oil fuelling plant and additional workshops at Wigan Springs Branch motive power depot, and reconstruction of superstructure and widening of bridge on Lean Valley line.

United Steel Structural Co., Limited, Scunthorpe, for supply, fabrication and delivery of steelwork and concrete deck units for bridge on Blackburn and Hellifield line.

Harbour and General Works, Limited, London, S.W.1, for diesel fuelling facilities at Crewe locomotive works.

Diving Boat for Maracaibo

Shell Tankers, Limited, has ordered on behalf of Cia. Shell de Venezuela from John. I. Thornycroft and Co., Limited, a fast workboat for service on Lake Maracaibo, Venezuela. The boat, which will be used for the transport of divers and their equipment, will be 53 ft. in length o.a. with a beam of 14 ft. 1 in., and draught of about 4 ft. 2 in. The hull will be of welded steel construction and the superstructure of aluminium alloy. The propelling machinery will comprise two Rolls-Royce turbo-charged 8-cylinder 330-b.h.p. diesel engines with oil-operated gearboxes, giving an expected speed of over 19 knots.

Scottish Region Contracts

The following contracts have been placed by the Scottish Region of British Railways:

Steels Engineering Products Limited, Glasgow, for three diesel-electric mobile cranes for goods stations in the Scottish Region.

James White (Contractors), Limited, Edinburgh, for realignment of railway and diversion of road, Camelon Viaduct, Falkirk High.

The Butler Machine Tool Co., Limited Halifax, for two rail planing machines for Motherwell permanent way workshops.

The Westinghouse Brake and Signal Co., Limited, London, for colour-light signalling south of the River Clyde in connection with Glasgow Suburban electrification.

Kullen and Co., K.G., Germany, for carriage washing plant at Bridgeton Central.

John Drysdale and Co., Limited, Glasgow, for reconstruction and widening of Swinton Highway overbridge at Easterhouse in connection with Glasgow Suburban electrification.

SHIPPING AND SHIPBUILDING

P.L.A. Records Again Surpassed

NET register tonnage of shipping entering and leaving the Port of London during the year ended March 31, 1959, again constituted a record, at 80,451,664 tons, being over 5,200,000 tons more than the previous year, itself a record. Tonnage using the P.L.A. dock premises was also a new record. The tonnage of goods passing through the port declined, however, by nearly 3,500,000 tons, i.e. a greater volume of shipping carried a lesser tonnage of cargo. Net revenue was £115,818 on a total revenue of £18,227,838; the surplus after special appropriations was £15,818.

New motorship, "Yorkshire Coast" (860 tons deadweight), operated by the Tyne-Tees Steam Shipping Co., Limited. She has a 90-ft. long hatch designed specifically for large sections of steel or pieces of machinery

New Cable Ship Ordered

IT is announced that Cable and Wireless, Limited, has accepted a tender by Cammell Laird and Co. (Shipbuilders and Engineers), Limited, Birkenhead, for a new cable repair ship which will cost a little over £1 million. It is expected that the keel of the vessel will be laid early in February next year and that she will come into service in the middle of February, 1961. The ship will be diesel-electric propelled, with a gross tonnage of approximately 4,000 tons, and capable of handling repairs to telegraph cable and to coaxial cable and rigid repeaters of the type to be used in the Anglo-Canadian telephone cable to be laid in 1961, and other sections of the proposed round-the-world Commonwealth telephone cable. She will have a maximum speed of 15 knots, a sea endurance of seven weeks and will be fully air-conditioned to enable her to work in tropical waters, as well as more temperate climates. She will be bigger and faster than c.s. *Recorder*, at present the largest and fastest vessel in the Cable and Wireless fleet.

Comprehensive Research Laboratory

THE new Ship Hydrodynamics Laboratory of the Department of Scientific and Industrial Research, at Feltham, was opened by H.R.H. the Duke of Edinburgh on Monday this week. The three main facilities of the laboratory are a 1,300-ft. long towing tank with a wave-maker, a large water tunnel, having a 44-in. diameter measuring section and a seakeeping and manoeuvring basin 100 ft. square. Ship models up to five tons in weight and 40 ft. in length can be towed in the towing tank, which is one of the largest of its kind, at speeds representing about 30 knots by a carriage straddling the tank. Such large models are expected to give more accurate results and the tank is deep enough (25 ft.) to enable models of large ships and submarine cargo vessels, such as might be nuclear-powered, to be tested.

Hopes of Nuclear Design

SPEAKING at the annual livery dinner of the Worshipful Company of Shipwrights in the Mansion House on Thursday last week, the First Sea Lord, Admiral Sir Charles E. Lambe, said he thought the decision regarding the construction of the first British merchant ship with nuclear power would be made soon. He thought it was now a "question of timing more than anything else" when the decision was made. Though a great deal of effort was being directed towards finding a reliable, economic and safe nuclear power unit for commercial operation, the ideal answer had not yet been found.

Sir Donald Anderson, president of the International Shipping Federation, has dismissed as "completely uncommercial" any idea of developing at present a nuclear-powered merchant ship. He said that even the experts were undecided on what type of reactor should be used, and he suggested that when they made their decision any available investment should be directed to developing that reactor.

FINANCIAL RESULTS

NOTES on the trading results, dividends and financial provisions of companies associated with the transport industry are contained in this feature, together with details of share issues, acquisitions and company formations or reorganisations

Stothert and Pitt

With a final payment of 15 per cent, Stothert and Pitt, Limited, is raising its ordinary dividend from the equivalent of 18¾ per cent to 20 per cent, allowing for the one-for-three scrip issue in October, 1958. Group profits were £498,860 (£493,172), after tax of £412,200 (£531,250), plus surplus tax provisions of £40,946 (£12,416).

G.E.C. and Leyland

A new company, Industrial and Transport Equipment, Limited, has been formed jointly by the General Electric Co., Limited, and Leyland Motors, Limited. It has an initial capital of £50,000 in 200,000 ordinary shares of 5s. each. The object of the new company is to take over an existing company, Consolidated Near East, in which both companies have previously shared an interest for almost 30 years.

Gloucester Railway Carriage and Wagon

Referring to the British Transport Commission's recently-announced policy with regard to the construction and repair of locomotives and rolling stock, General Sir William Morgan, chairman of the Gloucester Railway Carriage and Wagon Co., Limited, has said that the consequences might be that the B.T.C. workshops would be kept fully employed and only surplus requirements offered to private industry. Such a result would seriously affect the prospects of the company, as manufacturer of rolling stock. In the face of this threat sales efforts in overseas markets are being intensified. As a further measure the company is trying to get orders for any and every engineering product which it is able to manufacture in the group, and is also building up its subsidiaries. In pursuit of this policy negotiations are almost completed for the acquisition for cash of an old-established business which will add to the group's interests. Further opportunities of this sort may occur and with this in view stockholders' agreement to increase the company's borrowing powers is being sought.

North British Locomotive

The North British Locomotive Co., Limited, has warned holders not to expect any dividend in 1959, and maybe not for two or three years. A statement issued by the new chairman, Mr. T. Coughtrie, and the vice-chairman, Lord Reith, says that the loss for the half-year to July 10, 1959, is £986,567, and the value of the company to its equity owners is £375,592. Both men took over in August. Contracts have been taken at prices which do not cover costs. Further points of difficulty mentioned by the directors are:

1. Serious service difficulties after delivery.
2. Deliveries far behind schedule.
3. Many technical production troubles still to be resolved.
4. Costs so high in almost all departments that there would be little or no profit on current orders.
5. "Diversification" losses—Pels machines, pipelines, turbines, electric furnaces.

There is a risk of penalty charges amounting to £230,000. The directors also refer critically to various statements made in the last report of the previous board.

SOCIAL AND PERSONAL

Ministerial Changes

IMPORTANT changes in government regulation of transport were embodied in the Cabinet changes announced on Wednesday last week. Transport and civil aviation are to be separated and new responsibilities will fall to the Minister of Transport. The new Minister is Mr. Ernest Marples, formerly Postmaster-General, and the Minister of Aviation is Mr. Duncan Sandys, formerly Minister of Defence; Mr. Harold Watkinson has succeeded Mr. Sandys. The Minister of Aviation will take over the responsibilities of the Minister of Transport in respect of civil aviation and the responsibilities of the Minister of Supply for research, development and production of aircraft (both civil and military), guided and atomic weapons, radar and electronics. The remaining responsibilities of the Minister of Supply will be transferred to the Secretary of State for War. Ministerial responsibility for the shipbuilding and shiprepairing industry will be transferred from the First Lord of the Admiralty to the Minister of Transport.

* * *

The Transport Golfing Society held a most enjoyable last game of the present season at the Royal Wimbledon Golf Club on October 16. The weather was perfect and there was an excellent attendance of 77 members and their guests. First prizewinners were W. W. Sharpe (MODERN TRANSPORT) and W. Boxall (Caltex). Prizes were presented by the president of the society, Major R. M. Cole.

* * *

The appointment of Mr. A. A. A. Cardani, B.Sc., A.M.I.E.E., M.I.R.S.E, as signal engineer, Western Region, B.R., has been announced in these columns. Mr. Cardani was educated at Salesian College, London, studied electrical engineering and gained honours in the London University B.Sc. (special) degree in physics. He joined the signal and telegraph department of the London and North Eastern Railway (Southern Area) in 1938, and

Mr. A. A. A. Cardani

became an engineering graduate. He was principally engaged on stage work for the Great Eastern electrification up to 1947, in which year he left to join the Great Western Railway. Mr. Cardani was then engaged on new works, including signalling work in connection with the extensive railway alterations for the Margam strip mill scheme in South Wales, and the introduction of multiple-aspect signalling between Paddington and Southall, until 1955, when he was appointed assistant to signal engineer (general). His appointment as assistant signal engineer of the Western Region took place in 1957. He has served on a number of ad hoc and sub-committees of the British Transport Commission concerning signalling, including the electrical signalling apparatus sub-committee of the signal and telecommunications committee.

* * *

We record with regret the death, at the age of 91, of Mr. H. C. Parkes, who was a co-founder and formerly chairman of Small and Parkes, Limited. He retired from the business in 1949.

* * *

Mr. T. S. Roberts, chief docks manager of the B.T.C. Hull Docks, has been appointed a member of the Coastal Shipping Advisory Committee, set up under section 71 of the Transport Act, 1947, to replace Mr. H. L. Hopkins, who has resigned.

* * *

The Minister of Transport has appointed Mr. K. W. C. Grand, a nominee of the British Transport Commission, to be a member of the Central Transport Consultative Committee for Great Britain until December 31, 1960, in place of Lord Rusholme, who has retired from the Commission. Mr. Grand is a whole-time member of the British Transport Commission.

* * *

The London Midland Region announces the following appointments:

Mr. F. J. W. Wagstaff to be assistant district passenger manager, Euston.
Mr. E. S. Firth to be assistant district traffic superintendent, Stoke.
Mr. F. Mitchell to be assistant district operating superintendent, Liverpool (Central).
Mr. A. Pygott to be assistant district traffic superintendent (commercial), Chester.
Mr. T. M. Dickinson to be assistant district operating superintendent, Rugby.
Mr. P. N. Fazakerley to be assistant (special duties), public relations and publicity office, Euston.
Mr. W. Stewart to be line controller (passenger and freight services), line traffic officer's office, Manchester.
Mr. S. Atkinson to be assistant to district operating superintendent, Crewe.
Mr. A. R. Grattidge to be assistant works accountant, Gorton.
Mr. J. D. McCarten to be marine engineer, Heysham.

* * *

At the annual general meeting of the Institute of Road Transport Engineers on October 16 it was announced that Mr. G. Mackenzie Junner who recently retired from the editorship of *The Commercial Motor*, has been reappointed for the fourteenth year in succession as the president of the Institute. Other honorary appointments include Mr. J. H. Vincent, technical officer, London Carriers, Limited, who enters his second year in succession as vice-president of the Institute.

* * *

The Minister of Transport has appointed the following to be members of the Transport Users' Consultative Committee for the East Midland area until May 31, 1962, viz.: Mr. J. A. Shervington (representing industry), Mr. E. S. Good (representing shipping) and Mr. J. T. E. Robinson (B.T.C.). Mr. Shervington is divisional marketing officer (transport), East Midlands Division, National Coal Board, Mr. Good a director of John Good and Sons, Limited (Shipbrokers), Hull, and Mr. Robinson a director and general manager of the United Counties Omnibus Co., Limited.

Some 1,320 drivers of Manchester Corporation Transport Department have qualified for awards for 1958 under the National Safe Driving Competition of the Road Operators Safety Council. The awards include one 20-year and three 16-year bars.

* * *

Mr. Michael J. S. Clapham has been appointed chairman of the I.C.I. Metals Division from January 1, 1960, in succession to Dr. Maurice Cook, C.B.E., who retires from the service on December 31, 1959. Mr. Clapham has been joint managing director of I.C.I. Metals Division since October, 1952.

* * *

The British Transport Commission announces the following appointments:

Mr. A. E. T. Griffiths, traffic costing officer, London, Tilbury and Southend Line, to be principal traffic costing officer, Euston.
Mr. F. Fancutt, assistant director (chemical services), to be assistant director of research (chemical services), Euston Square.
Mr. S. Bairstow, area chemist, Derby, to be assistant director, chemical services division, Derby.

* * *

A memorial service for the late Mr. A. W. Lawson, C.B.E., a former director of Shell-Mex and B.P., Limited, was held at St. Dunstan-in-the West, on October 16. Mr. Lawson, who was chief operating officer of the Petroleum Board during the war, was a director of Carless, Capel and Leonard, Limited, International Paints, Limited, and Scammell Lorries, Limited, at his death. He was 71.

* * *

As already recorded, Mr. S. J. Judson, assistant regional establishment and staff officer, North Eastern Region, has been appointed regional establishment and staff officer, North Eastern Region, B.R. Mr. Judson joined the London and North Eastern Railway in 1924 and after gaining experience in goods and passenger work in the North East, was selected for appointment as a traffic apprentice. His training was undertaken in the Southern Area of the L.N.E.R., and afterwards he

Mr. S. J. Judson

was given appointments in the operating department at London (Ferme Park) in 1933, and in the commercial department at Newcastle (1934). In 1941 he was appointed stationmaster and locomotive shedmaster at Whitby, in charge of the work of four departments, and from there became assistant to the mineral manager, Doncaster. He was appointed head of the works section of the commercial departments in the headquarters at York in 1944 and was later made docks and works assistant to the goods manager and passenger manager, York. He became staff assistant to the operating superintendent and motive power superintendent, York, in 1949 and three years later was appointed assistant (wages staff) to the regional staff officer. Mr. Judson became assistant regional establishment and staff officer in 1957.

* * *

Mr. R. F. Bennett, A.M.I.Mech.E., who has been selected to succeed Mr. A. A. Jackson as general manager of Bolton Transport Department when the latter retires, was educated at Plympton Grammar School and was articled to the late Captain C. Jackson, general manager, at Plymouth, following which he become technical assistant to the transport department there. He left the industry for a period in 1954 to take up an appointment in production methods with the Michelin Tyre Co. Limited, at Stoke-on-Trent, returning in 1955 as deputy manager at Plymouth following the appointment of Mr. J. G. Timpson as general manager and engineer. Mr. Bennett was appointed to his present post of general manager and engineer, Great Yarmouth Corporation Transport Department, early in 1958 in succession to Mr. H. A. Blackburn.

Mr. R. F. Bennett

* * *

At the annual general meeting of the Diesel Engineers and Users Association on October 15, the president, Mr. D. S. Dodsley Williams, announced that Mr. F. A. Greene, who had held the office of hon. treasurer for nearly 30 years, was not seeking re-election. Since Mr. Greene became a member in 1923 he has made a valuable contribution to the affairs of the association and the general committee proposed that he be elected an honorary member. The committee nominated the following officers for the year 1959-60: president, Mr. James Calderwood, M.Sc., M.I.Mar.E., A.F.R.Ae.S.; immediate past president, Mr. H. D. Adam; hon. secretary, Mr Julian Tritton; and hon. treasurer, Mr. D. S. Dodsley Williams. In submitting these nominations, Mr. Williams explained that traditionally the president for the year remains an ex-officio member of the general committee for the ensuing year by reason of his position as immediate past president. As, however, he had been nominated for the office of hon. treasurer, the committee proposed that Mr. Adam remains in office as immediate past president for a further year. Mr. Williams also reported that the secretary, Mr. C. W. J. Taffs, M.Sc.(Eng.), M.I.Mech.E., had tendered his resignation, which the committee had accepted with regret. The committee has appointed Mr. A. P. Quarrell, A.M.I.Mech.F , A.M.I.Mar.E., to the office of secretary.

"DELTIC"

This 3,300 h.p. locomotive built by The English Electric Company is the most powerful single unit diesel electric in the world, and it has successfully come through an extensive trial period on British Railways.
It is fitted with twin 18-cylinder Napier Deltic Engines,

and

WESTINGHOUSE

BRAKE EQUIPMENT

which will be fitted also to the 22 new locomotives of this type to be supplied by The English Electric Company for service on the East Coast Route of the Eastern, North Eastern and Scottish Regions of British Railways.

Brakes made in England by–

Westinghouse Brake and Signal Co. Ltd., 82 York Way, King's Cross, London, N.1

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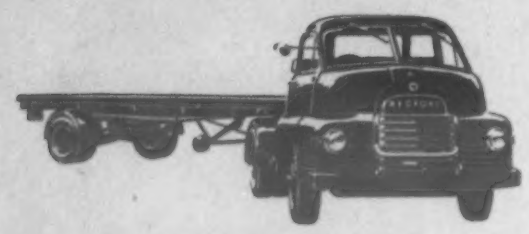

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